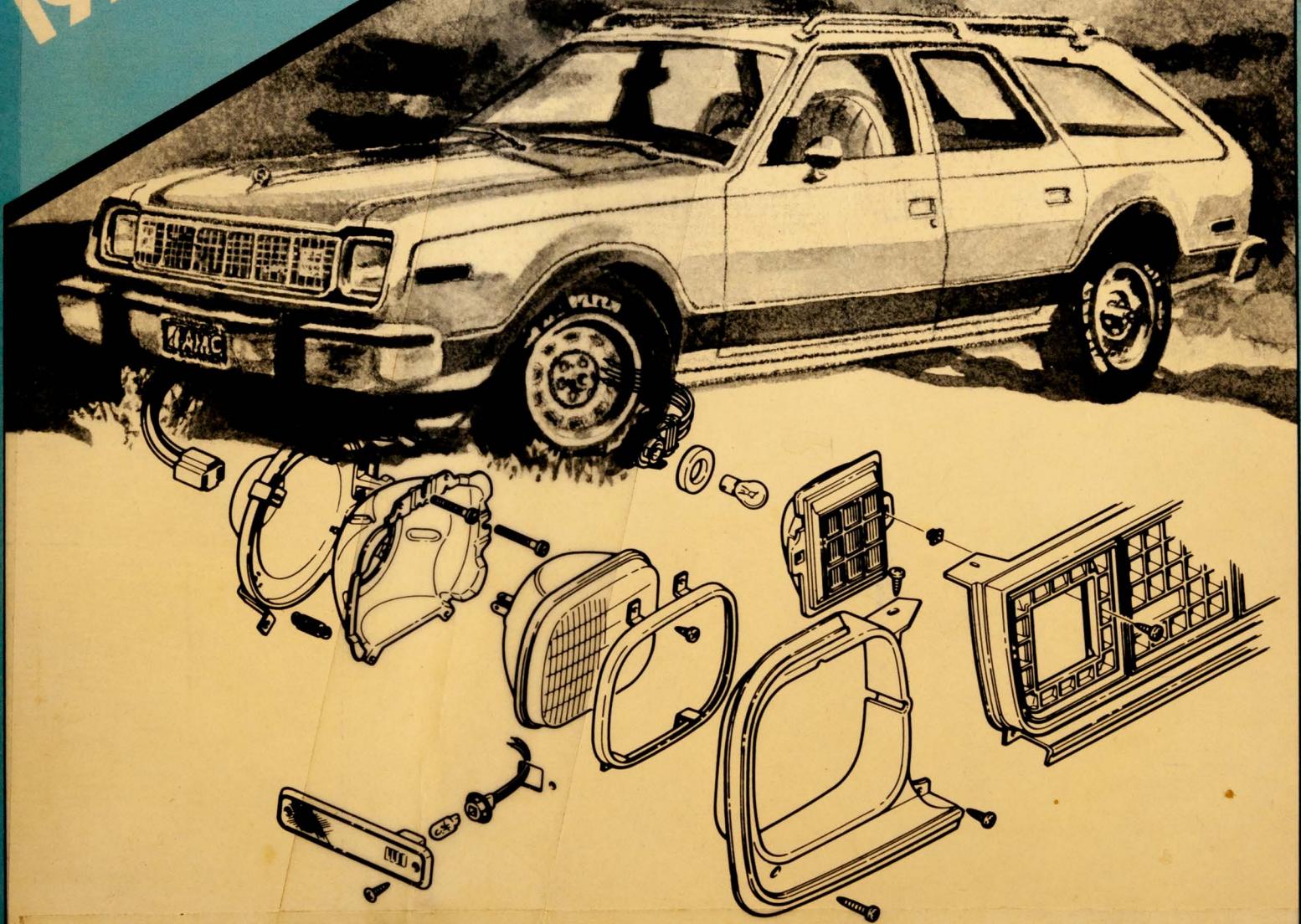


VOLUME 3
BODY

AMC
1978 TECHNICAL SERVICE MANUAL



FOREWORD

This manual is one of three volumes which together comprise the 1978 American Motors Corporation Technical Service Manual. The three volumes are Volume 1—Power Plant, Volume 2—Chassis and Volume 3—Body. All three volumes provide a systems approach to servicing 1978 AMC cars, and each volume contains diagnosis and repair procedures, specifications and torque references for the system described.

The Chapter Index on the opposite page allows you to quickly locate any desired chapter. On the first page of each chapter there is a black tab in a position corresponding to the tab on the Chapter Index page. To locate a chapter, simply fold back the manual slightly to expose the outside edges of the pages. Find the tab that aligns with the index tab and open to that page. At the beginning of each chapter is an index of major subjects. An alphabetical index of major subjects within this volume is included in the back of this manual.

All information and specifications in this manual are based on the latest data available at the time of publication. American Motors Corporation reserves the right to discontinue models and change specifications or design without notice or incurring obligation.

Brand names mentioned in this manual are for convenience only and are not intended as a recommendation to use a specific brand of product. They are indicative of a class or type and may be substituted by their equivalent.

1978 TECHNICAL SERVICE MANUAL

VOLUME 3 BODY

Pacer..... 60 Series
Gremlin..... 40 Series
Concord & AMX 01 Series
Matador..... 10-80 Series

For the chapter you want to read, turn the page to the right and fold the left edge of the page back so that the chapter title and page number are exposed. Find the chapter title in the chapter index page and turn to the page indicated.

Each chapter begins with a subject index. Locate the desired subject in the index and turn to the appropriate page. If the subject is divided into sections and a section title is also included, an alphabetical index is included at the back of this section.

Each chapter ends with a listing of special tools, parts and accessories and special tools pertinent to the chapter.

For further information on parts and accessories, refer to the *Parts and Accessories Catalog*.

For detailed descriptions of repaired parts, refer to the *Repair Parts Catalog* or *Service Manual*. For some parts, repair instructions and diagrams are included in this manual.

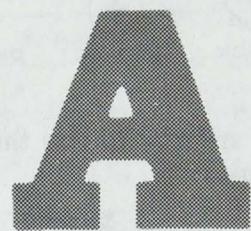
For information on how to handle damage to your vehicle, refer to the *Damage Prevention Guide*.

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Maintenance	B
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GENERAL INFORMATION



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Lift Points	A-8		

HOW TO USE THIS MANUAL

Organization

The first page of each chapter contains a black tab in a position corresponding to the tab on the chapter index page. To locate a desired chapter, simply fold back the manual slightly so that the outside edges of the pages are exposed. Find the black tab that aligns with the tab in the chapter index page and open to the desired chapter.

Each chapter begins with an alphabetical index of subjects. Locate the desired subject and turn to the appropriate page. If the subject is broad, the chapter is divided into sections and a subject index of each section is also included. An alphabetical index of all subjects is included at the back of this manual.

Each chapter ends with specifications, torque charts, and special tools pertinent to that chapter.

Warnings and Cautions

Detailed descriptions of standard workshop safety procedures are not included in this manual. This manual does contain **WARNINGS** for some service procedures that could cause personal injury, and **CAUTIONS** for some procedures that could damage the vehicle or its components. Please understand that these **WARNINGS** and **CAUTIONS** do not cover all conceivable ways which service might be done or all possible hazardous consequences of each conceivable way. Anyone using serv-

ice procedures or tools (whether or not recommended by American Motors) must satisfy himself that neither personal nor vehicle safety will be jeopardized by the procedures or tools selected.

DARS Charts

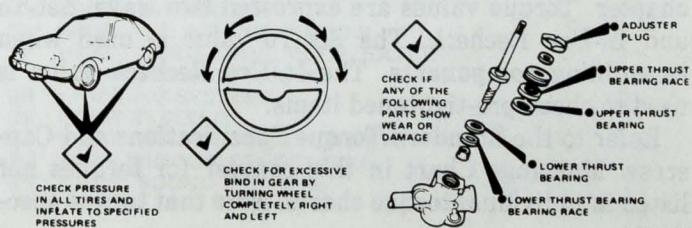
In several places throughout this manual, American Motors new Diagnosis and Repair Simplification(DARS) charts provide a graphic method of diagnosis and troubleshooting through the use of pictures and symbols.

The DARS charts are different from the ones you have used before. They are not "go-no go" decision trees or tables.

	Condition	Possible Cause	Correction

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Instead, the new DARS charts use pictures plus a few words to help you solve a problem. . .

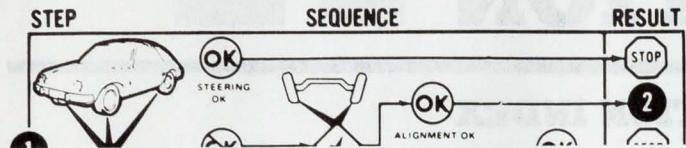


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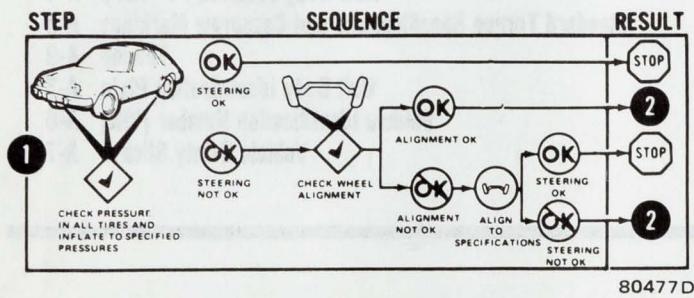
and symbols and words help guide you through each step...



The charts are divided into three sections: **step**, **sequence** and **result**.



Always start at the first step and go through the complete sequence from left to right.



A sequence could be checking pressure in all tires and inflating to specified pressures. If the problem is solved, the symbol **OK** will send you to **STOP**. If the problem is not solved, the symbol **OK** will send you through another sequence of checks which ends with a result and tells you the next step to go to.

Work through each step of the DARS charts until the system is repaired **STOP**.

Service Diagnosis Charts

You will also find Service Diagnosis Charts throughout this manual. These charts list causes of specific problems in descending order of probability. It is more likely that a problem would result from the first listed "possible cause" than the fourth, for instance. Visual inspection often leads directly to the correct solution. All service procedures should begin with a careful visual inspection of any suspected part or assembly.

Torque Information

Individual torque charts appear at the end of each chapter. Torque values are expressed two ways, Set-To and In-Use Recheck. The Set-To value is used when assembling components. The In-Use Recheck value is used to check pre-tightened items.

Refer to the Standard Torque Specifications and Capscrew Markings Chart in this chapter for torques not listed in individual torque charts. Note that torque spec-

ifications in this chart are based on use of clean and dry threads. Reduce torque by 10 percent when threads are lubricated with engine oil and by 20 percent if new plated capscrews are used.

Torx-Head Fasteners

Various sizes of internal and external hex lobular (Torx) head fasteners are used as attaching hardware on numerous components and assemblies in 1978 AMC cars. Due to the ever-changing usage and application of automotive fasteners, Torx-head fasteners may not be identified as such throughout this manual. However, these fasteners may be removed or installed using Tool Set J-25359-02.

Service Manual Improvements

You are encouraged to report errors, omissions, or recommendations for improving this publication. A form provided for this purpose is included at the end of this chapter.

GENERAL INFORMATION—VOLUME THREE

This manual (Volume Three) covers the various body, heating, air conditioning and body electrical components used in 1978 Pacer, Gremlin, Concord, AMX and Matador AMC cars. It provides diagnosis methods, repair procedures and specifications required to service body components, heater, air conditioning, lighting systems, horn system, windshield wipers, and radio sound systems.

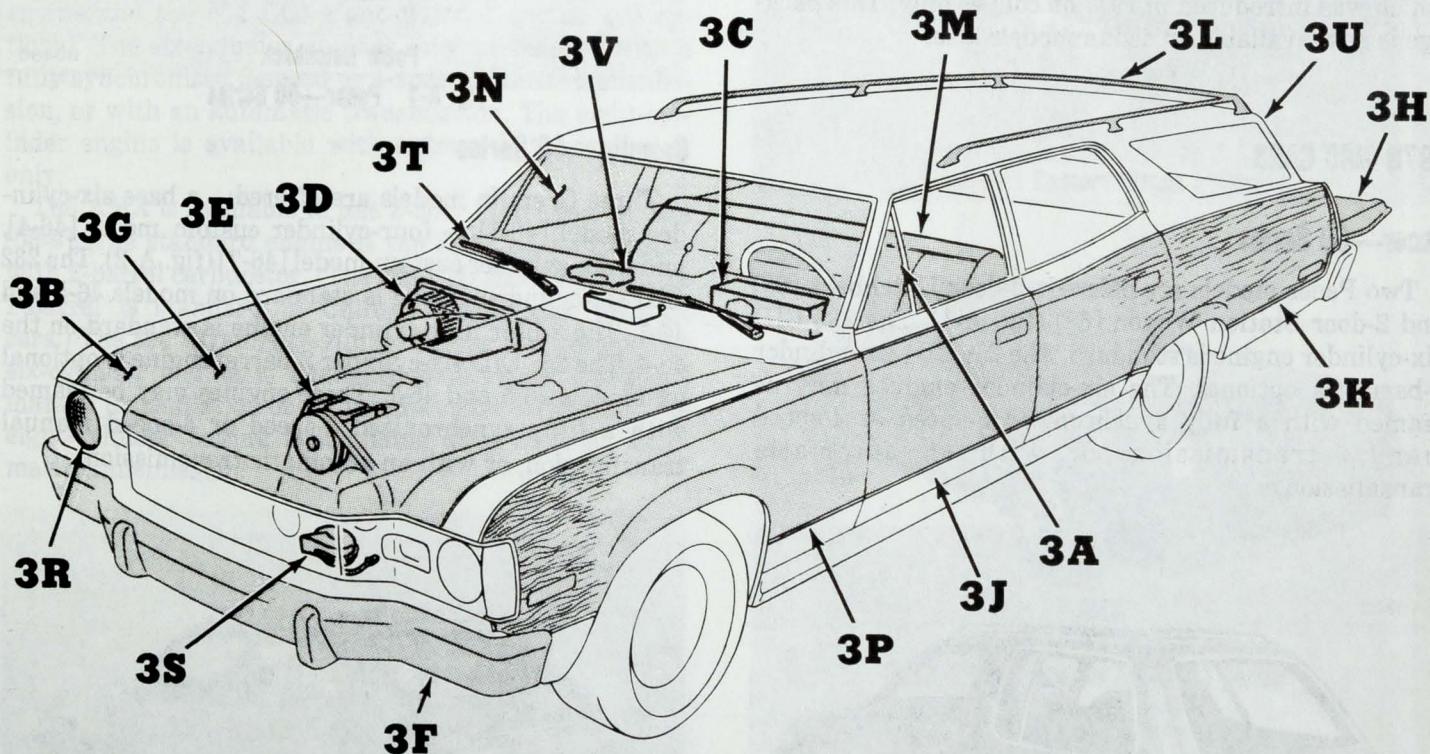
Chapters A, B and C contain general information related to vehicle, body styles, available power teams, general maintenance and fleet equipment.

Chapter 3A contains information necessary for diagnosis and repair of water leaks and wind noise. Chapter 3B contains essential procedures for metal repair, paint repair and acrylic enamel, finishing metal replacement parts and finishing interior plastic trim parts. Chapters 3C and 3D cover instrument panels and heaters and are organized into three sections: Pacer, Gremlin-Concord-AMX, and Matador. Chapter 3E covers air conditioning and is organized into five sections: General Information, General Service Procedures, and Pacer, Gremlin-Concord-AMX, and Matador service procedures. Chapter 3F contains service information relative to bodies, panels, fenders and bumpers. Chapter 3G covers Pacer, Gremlin, Concord, AMX and Matador hoods. Chapter 3H applies the systems approach to liftgate and tailgate sealing, window, lock and hinge systems. Chapter 3J applies the systems approach to front doors, rear doors and electrically operated windows. Chapter 3K and 3L contain operations necessary to service the rear quarter, luggage racks and rear cargo cover. Chapter 3M contains operations for servicing the seats. Chapter 3N contains essential procedures for windshield and rear windows.

Standard Torque Specifications and Capscrew Markings Chart

CAPSCREW HEAD MARKINGS	CAPSCREW BODY SIZE Inches - Thread	SAE GRADE 1 or 2 (Used Infrequently)		SAE GRADE 5 (Used Frequently)		SAE GRADE 6 or 7 (Used at Times)		SAE GRADE 8 (Used Frequently)	
		Torque		Torque		Torque		Torque	
		Ft-Lb	Nm	Ft-Lb	Nm	Ft-Lb	Nm	Ft-Lb	Nm
Manufacturer's marks may vary. Three-line markings on heads shown below, for example, indicate SAE Grade 5.	1/4-20 -28	5 6	6,7791 8,1349	8 10	10,8465 13,5582	10	13,5582	12 14	16,2698 18,9815
	5/16-18 -24	11 13	14,9140 17,6256	17 19	23,0489 25,7605	19	25,7605	24 27	32,5396 36,6071
	3/8-16 -24	18 20	24,4047 27,1164	31 35	42,0304 47,4536	34	46,0978	44 49	59,6560 66,4351
	7/16-14 -20	28 30	37,9629 40,6745	49 55	66,4351 74,5700	55	74,5700	70 78	94,9073 105,7538
	1/2-13 -20	39 41	52,8769 55,5885	75 85	101,6863 115,2445	85	115,2445	105 120	142,3609 162,6960
	9/16-12 -18	51 55	69,1467 74,5700	110 120	149,1380 162,6960	120	162,6960	155 170	210,1490 230,4860
	5/8-11 -18	83 95	112,5329 128,8027	150 170	203,3700 230,4860	167	226,4186	210 240	284,7180 325,3920
	3/4-10 -16	105 115	142,3609 155,9170	270 295	366,0660 399,9610	280	379,6240	375 420	508,4250 569,4360
	7/8- 9 -14	160 175	216,9280 237,2650	395 435	535,5410 589,7730	440	596,5520	605 675	820,2590 915,1650
	1- 8 -14	235 250	318,6130 338,9500	590 660	799,9220 894,8280	660	894,8280	910 990	1233,7780 1342,2420

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Volume Three—Body

- | | |
|---|--|
| 3A WATER LEAK/WIND NOISE DIAGNOSIS AND REPAIR | 3L LUGGAGE RACKS-REAR CARGO COVER |
| 3B METAL REPAIR AND PAINTING | 3M SEAT ASSEMBLIES |
| 3C INSTRUMENT PANELS AND COMPONENTS | 3N WINDSHIELD-REAR WINDOW |
| 3D HEATER | 3P HEADLINING-VINYL ROOF- EXTERIOR DECALS AND OVERLAYS |
| 3E AIR CONDITIONING | 3R LIGHTING SYSTEMS |
| 3F BODIES-PANELS-FENDERS-BUMPERS | 3S HORN SYSTEMS |
| 3G HOODS | 3T WINDSHIELD/LIFTGATE WIPERS |
| 3H LIFTGATES-TAILGATES-DECK COVERS | 3U REAR WINDOW DEFOGGERS |
| 3J DOORS | 3V RADIO SOUND SYSTEMS |
| 3K REAR QUARTER | |

80476C

Chapter 3P contains procedures for the quick removal of exterior decals and wood grain overlays. Chapter 3R through 3V are concerned with service procedures and specifications for body electrical systems and components.

NEW BODY FEATURES FOR 1978

Pacer models feature restyled hoods and grilles. Redesigned bumpers are enclosed at the rear to eliminate the bumper reinforcement bar. The bumpers are lighter in weight and are made from high strength steel.

Gremlin models feature a completely redesigned instrument panel, revised heaters, and new fresh air ducts.

Concord models are new for 1978. They feature new hoods and grilles with rectangular headlamps; new instrument panels, heaters and fresh air ducts; and new tri-color taillamps at the rear. Sedan models feature a new roof line above the rear window.

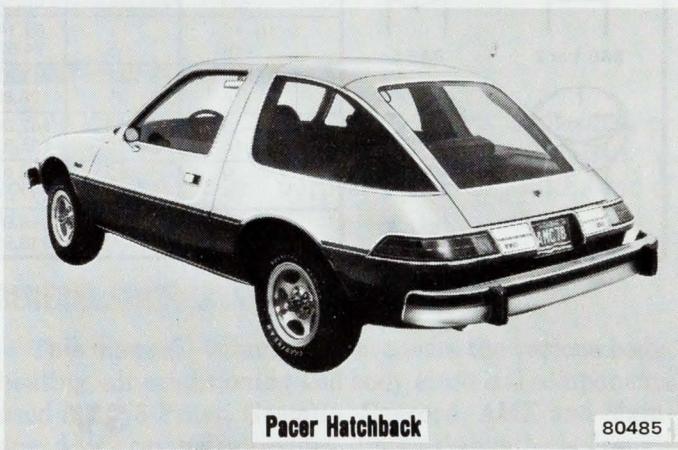
The AMX model features a new grille, hood, front spoiler, fender extensions and instrument panel. New black and gold trim is used and a new rally package is offered.

Matador models feature the Barcelona II trim package which was introduced in 1977 on coupes only. This package is now available on sedan models also.

1978 AMC CARS

Pacer—60 Series

Two Pacer models are offered: 2-door Hatchback [66] and 2-door Station Wagon [68] (fig. A-1). The 232 CID six-cylinder engine is standard. The 258 CID six-cylinder 2-barrel is optional. The six-cylinder engines may be teamed with a fully synchronized 3-speed or 4-speed manual transmission, or with an automatic transmission.



Pacer Hatchback

80485

Fig. A-1 Pacer—60 Series

Gremlin—40 Series

Three Gremlin models are offered: a base six-cylinder model [46-5], a four-cylinder custom model [46-4], and a six-cylinder custom model [46-7] (fig. A-2). The 232 CID six-cylinder engine is standard on models 46-5 and 46-7. The 2-liter four-cylinder engine is standard on the 46-4. The 258 CID six-cylinder 2-barrel engine is optional on models 46-5 and 46-7. These engines may be teamed with a fully synchronized 3-speed or 4-speed manual transmission, or with an automatic transmission.



Pacer Wagon

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Gremlin

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80486

Fig. A-2 Gremlin—40 Series**Concord Sedan****Concord Wagon**

80487

Fig. A-3 Concord and AMX—01 Series**Concord Hatchback****Matador—10-80 Series**

Three Matador models are offered: 2-door Coupe [16], 4-door Sedan [85], and 4-door Station Wagon [88] (fig. A-4). The 258 CID six-cylinder engine is standard for Sedans and Coupes. Optional engine for these models is the 360 CID 2-barrel eight-cylinder. The 360 CID eight-cylinder is standard for all Station Wagons.



Matador Coupe



Matador Sedan



Matador Wagon

80488

Fig. A-4 Matador—10-80 Series

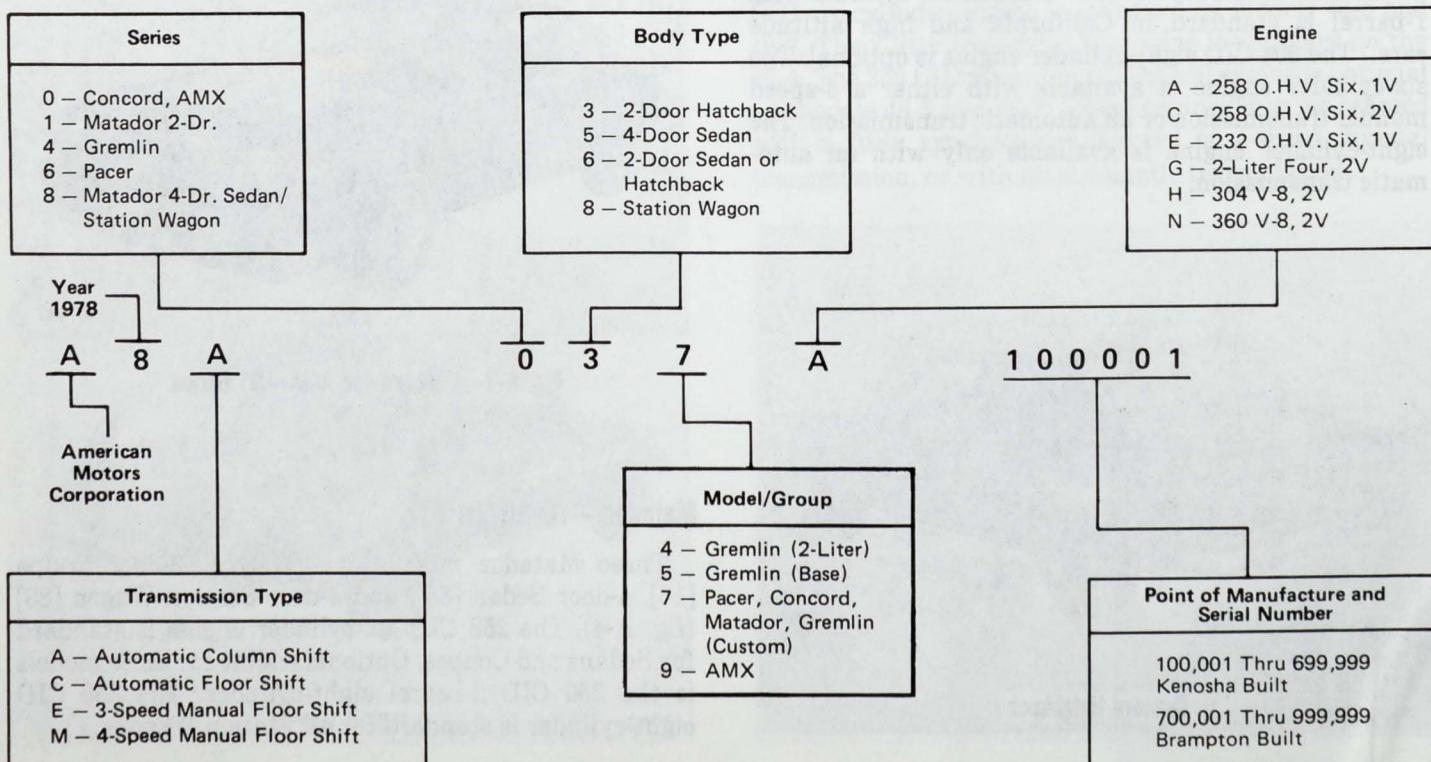
VEHICLE IDENTIFICATION NUMBER (VIN)

A thirteen digit Vehicle Identification Number is embossed on a metal plate which is riveted to the upper corner of the instrument panel (between the left windshield wiper pivot and the left A-pillar). It can easily be seen by looking through the windshield. The VIN is decoded as shown in the VIN Decoding Chart.

EMISSION CONTROL MAINTENANCE INFORMATION LABEL

A nonremovable federal emission control information label is located in the engine compartment of all 1978 AMC models. This sticker identifies the engine family

VIN Decoding Chart



determined by certification and outlines some basic tune-up specifications (fig. A-5).

A different label is used for all cars built for sale in the state of California. This sticker replaces the federal sticker on California cars and reflects quarterly audit figures (fig. A-6).



Fig. A-5 Federal Emission Control Maintenance Information Label

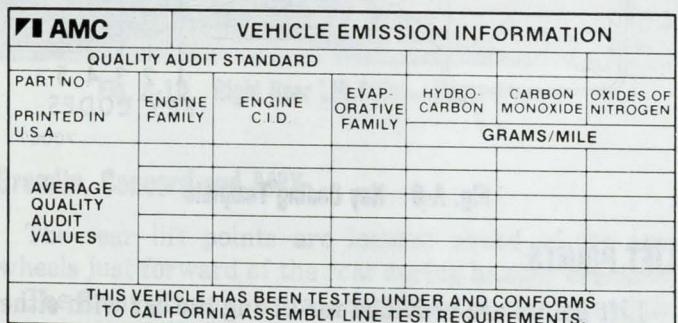


Fig. A-6 California Emission Control Maintenance Information Label

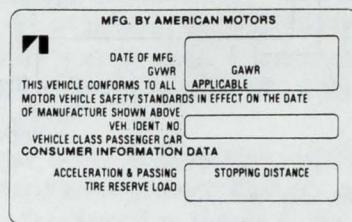
VEHICLE SAFETY STICKER

A nonremovable safety sticker is affixed to the edge of the left front door. It lists the month and year build, a safety compliance statement and the vehicle identification number. Some consumer information is included on the sticker, such as: vehicle class, acceleration and passing figures, tire reserve load, and stopping distance. All operating information represents average figures for AMC cars (fig. A-7).

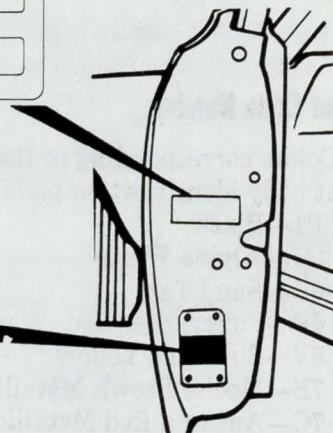
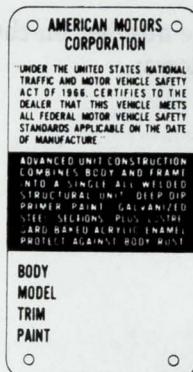
UNIT BODY IDENTIFICATION PLATE

A unit body identification plate is riveted to the edge of the left front door (fig. A-7). This plate includes a

statement of compliance with federal safety standards and a statement of construction. Embossed on it are the vehicle body number, model number, trim number, paint code number and the vehicle build sequence number.



Federal Safety Certification Label



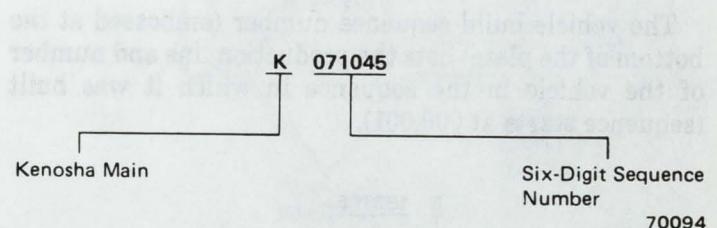
Body Identification Plate

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Fig. A-7 Safety Sticker and Unit Body ID Plate Location.

Body Number

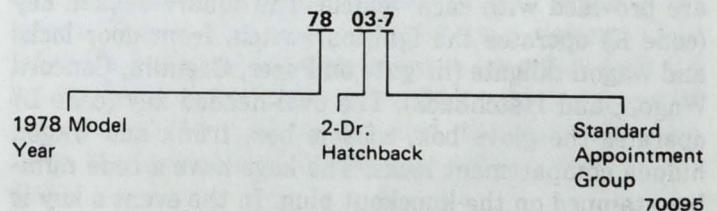
The body number identifies the location where the body was built and the body sequence number.



70094

Model Number

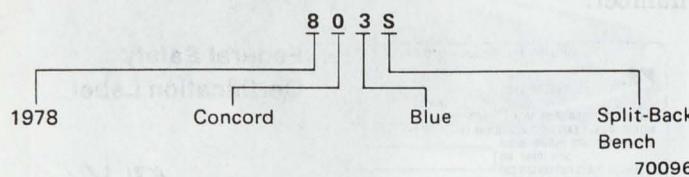
The model number identifies the model year, body style, and body standard or custom appointment group number.



70095

Trim Number

The trim number identifies the car trim and fabric color and type of seats.

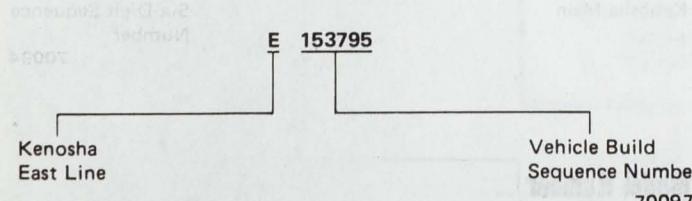
**Paint Code Number**

Colors corresponding to the paint code number on the unit body identification plate are as follows:

- P1—Black
- G7—Alpine White
- 6D—Sand Tan
- 6P—Firecracker Red
- 6V—Sunshine Yellow
- 7B—Mocha Brown Metallic
- 7C—Autumn Red Metallic
- 7D—Powder Blue
- 7K—Midnight Blue Metallic
- 7L—Loden Green Metallic
- 7M—Golden Ginger Metallic
- 7Z—Sun Orange
- 8A—Khaki
- 8B—British Bronze Metallic
- 8C—Quick Silver Metallic
- 8D—Claret Metallic

Vehicle Build Sequence Number

The vehicle build sequence number (embossed at the bottom of the plate) lists the production line and number of the vehicle in the sequence in which it was built (sequence starts at 000,001).

**KEYS AND LOCKS**

Four keys (two square-headed and two oval-headed) are provided with each vehicle. The square-headed key (code K) operates the ignition switch, front door locks and wagon tailgate (liftgate on Pacer, Gremlin, Concord Wagon, and Hatchback). The oval-headed key (code L) operates the glove box, console box, trunk and wagon hidden compartment locks. The keys have a code number stamped on the knockout plug. In the event a key is

lost, a new key can be made by converting the key code number to a key bitting number. Key bitting numbers can be obtained from a key cutting machine manufacturer's cross-reference or by contacting your zone office.

If a key is lost and the key code number is unknown, the correct number can be obtained by the zone office from the vehicle identification number (VIN).

NOTE: The template shown in Figure A-8 may be used to determine the key bitting code of a key for which the key code number is unknown.

If the ignition key is lost and the key code number is not available, a new key can be made by removing a door lock and taking it to a locksmith. The locksmith can determine the key bitting by inserting a blank key into the lock cylinder and cutting the blank to match the tumblers.

If the ignition switch lock is defective and the key is available, the cylinder and individual tumblers can be ordered and matched to the existing key. To determine the tumbler arrangement, place the key over the template (fig. A-8). Starting with the number 1 position read across the visible line and record the first digit of the key code, continue this process for subsequent positions 2 through 5.

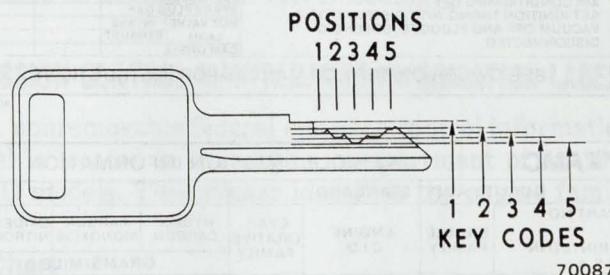


Fig. A-8 Key Coding Template

LIFT POINTS

Lift points are provided for lifting the car with either a floor jack or a frame contact-type lift.

CAUTION: When lifting the car, be sure the floor jack or frame contact-type lift does not damage any fuel lines or brake lines (figs. A-9 and A-10).

NOTE: Refer to Chapter B—Maintenance for lift point illustrations on all models.

Pacer

The rear lift points are located ahead of the rear wheels at the rear spring hanger brackets (figs. A-9 and A-10).

The front lift points are located just to the rear of the dash panel at the front wheelhouse sills.

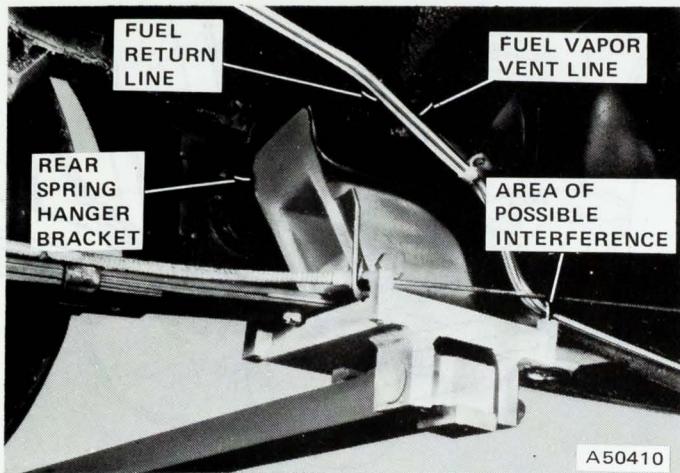


Fig. A-9 Left Rear Lift Point—Pacer Shown

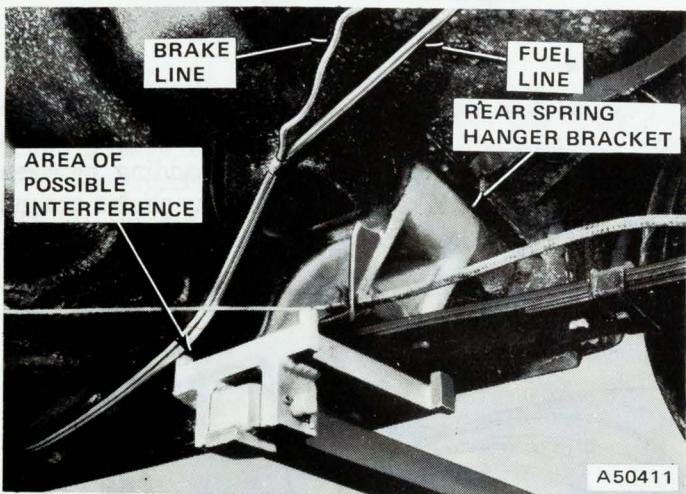


Fig. A-10 Right Rear Lift Point—Pacer Shown

Gremlin, Concord and AMX

The rear lift points are located ahead of the rear wheels just forward of the rear spring hanger brackets.

The front lift points are located just to the rear of the strut rod-to-sill mounting brackets on the sills.

Matador

The rear lift points are located ahead of the rear wheels on the sills adjacent to the rear suspension lower control arm mountings.

The front lift points are located just to the rear of the strut rod-to-sill mounting brackets on the sills.

TOWING

General

A conventional towing sling is recommended for use on all AMC cars because of its stability and reduced likelihood of damage. The following instructions apply only to this device. When using other than sling-type

towing equipment, be sure to follow the manufacturer's instructions.

A safety chain system that is completely independent of the lifting and towing attachment must be used. Be careful when installing safety chains so that they do not damage the car.

If additional ground clearance is required, a towing dolly may be used. The end of the car to be placed on the dolly should be lifted with the same equipment as when towing.

In some applications, auxiliary spacer blocks may be required to prevent damage to the car. Spacer blocks can be fabricated as shown in fig. A-11.

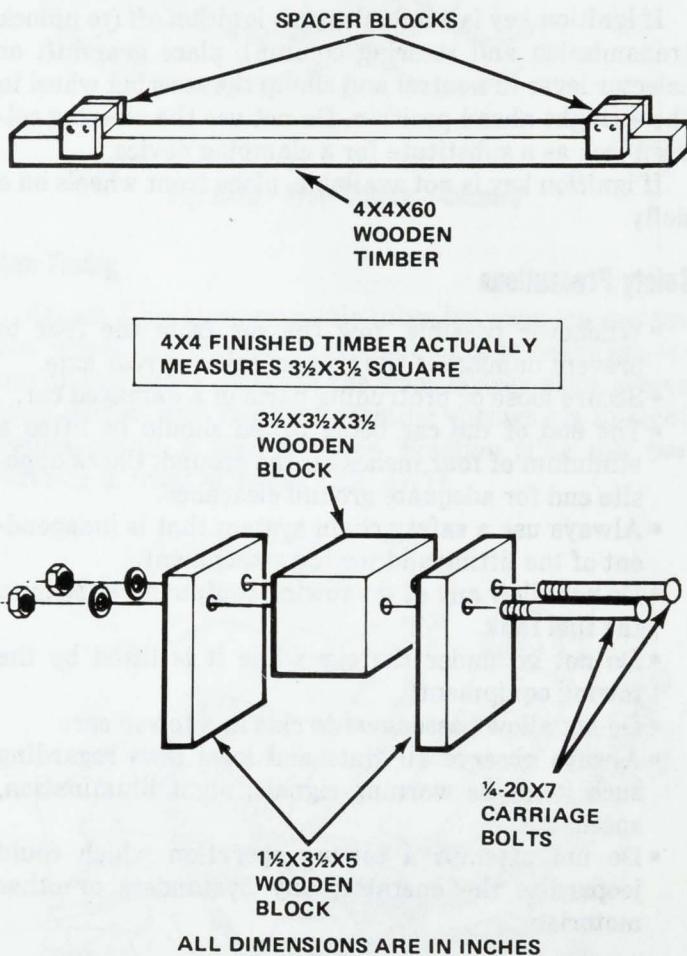


Fig. A-11 Spacer Block Construction

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Front Towing

If ignition key is available, turn ignition off (to unlock transmission and steering column), place gearshift or selector lever in neutral. Be sure parking brake is released. The car may then be towed for a distance of 15 miles (24 km/h) and at speeds not to exceed 30 mph (48 km/h). If a distance of 15 miles (24 km/h) or a speed 30 mph (48 km/h) must be exceeded, the propeller shaft must be disconnected or the rear wheels placed on a dolly.

If ignition key is not available, disconnect propeller shaft or place rear wheels on a dolly.

CAUTION: Transmission and rear axle must be in an operable condition and transmission must be filled to the proper level. If not, rear wheels must be placed on a dolly.

NOTE: If the propeller shaft must be disconnected, the transmission extension housing seal should be capped to prevent leakage when the car is lifted.

Rear Towing

If ignition key is available, turn ignition off (to unlock transmission and steering column), place gearshift or selector lever in neutral and clamp the steering wheel in the straight-ahead position. Do not use the steering column lock as a substitute for a clamping device.

If ignition key is not available, place front wheels on a dolly.

Safety Precautions

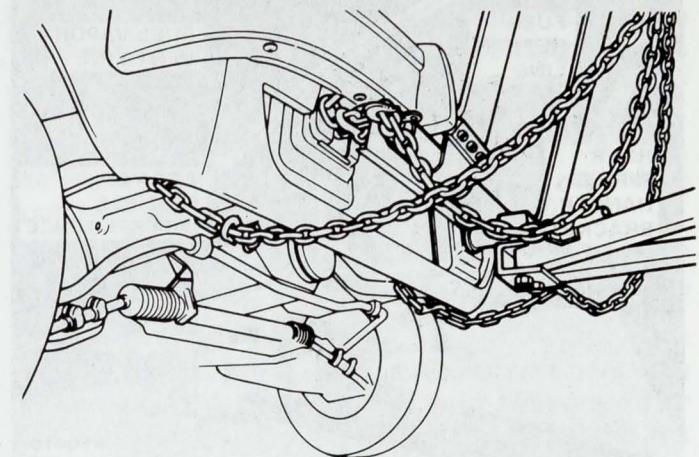
- Whenever possible, tow the car from the rear to prevent damage to the transmission or rear axle.
- Secure loose or protruding parts of a damaged car.
- The end of the car being towed should be lifted a minimum of four inches off the ground. Check opposite end for adequate ground clearance.
- Always use a safety chain system that is independent of the lifting and towing attachment.
- Do not allow any of the towing equipment to bear on the fuel tank.
- Do not go under the car while it is lifted by the towing equipment.
- Do not allow passengers to ride in a towed car.
- Always observe all state and local laws regarding such items as warning signals, night illumination, speed, etc.
- Do not attempt a towing operation which could jeopardize the operator, any bystanders or other motorists.

Pacer

Front Towing

Position tow bar under front bumper. Wrap chains once around energy absorbers and secure in grab hooks at ends of sling lower bar. Insert padding between bumper and sling. Wrap separate safety chains around frame rails ahead of stabilizer bar (fig. A-12).

CAUTION: Tow bar must be parallel with ground after lifting.



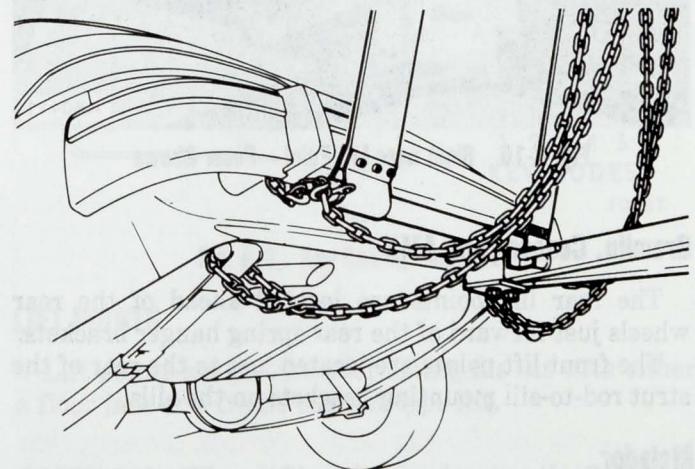
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Fig. A-12. Front Towing—Pacer

Rear Towing

Position tow bar under rear bumper. Wrap chains once around energy absorbers and secure in grab hooks at ends of sling lower bar. Insert padding between bumper and sling. Wrap separate safety chains around rear spring shackles (fig. A-13).

CAUTION: Tow bar must be parallel with ground after lifting.



70327B

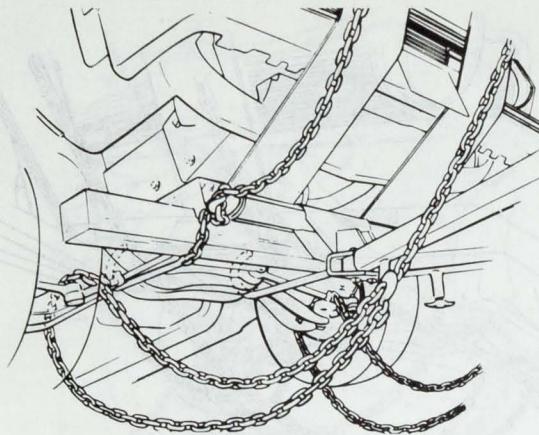
Fig. A-13. Rear Towing—Pacer

Gremlin

Front Towing

Attach J-hooks on the rear of the front crossmember near the lower control arms. Position the wood spacer block across sling chains with blocks contacting frame rails directly behind the radiator. Position the sling tow bar directly ahead of spacer.

Attach separate chains around outboard end of lower control arms (fig. A-14).



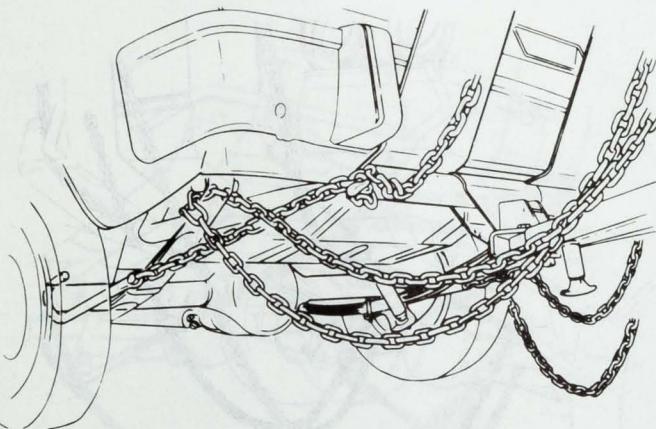
70322A

Fig. A-14 Front Towing—Gremlin**Rear Towing**

Attach J-hooks on rear axle tubes between the shock absorber mounting bracket and wheel. Use caution to avoid damage to brake line on top of axle tubes.

A wood spacer block is not required. Be certain hooks are off the spring leaf to prevent shifting after the vehicle is lifted.

Attach separate safety chains around spring shackles (fig. A-15).

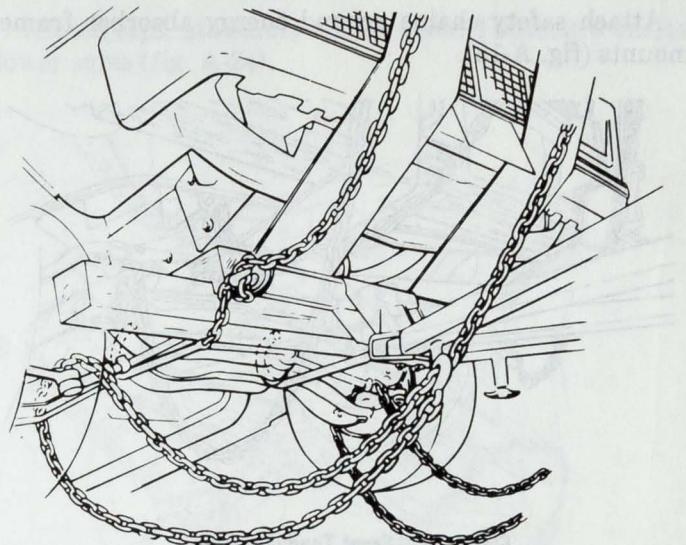


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Fig. A-15 Rear Towing—Gremlin**Concord****Front Towing**

Attach J-hooks on the rear of the front crossmember near the lower control arms. Position the wood spacer block against the front wheels with blocks contacting ends of frame horns. Position sling tow bar six to eight inches behind the bumper.

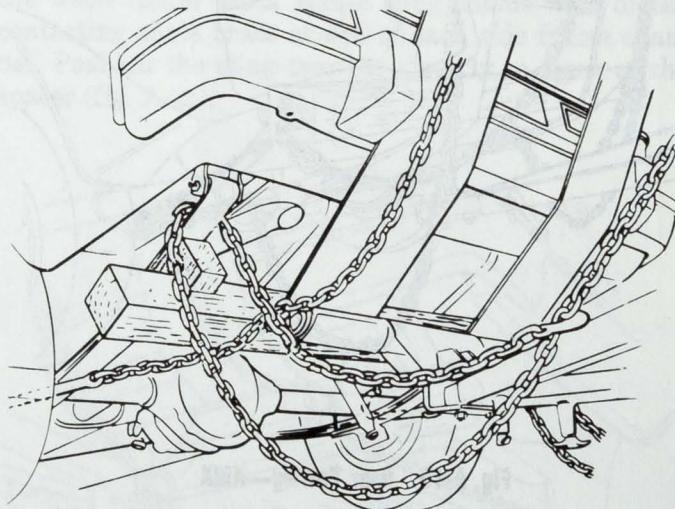
Attach separate safety chains around outboard end of lower control arms (fig. A-16).



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Fig. A-16 Front Towing—Concord**Rear Towing**

Attach J-hooks on rear axle tubes between the springs and wheel. Use caution to avoid damage to brake line on top of axle tubes. Position the wood spacer block across sling chains with blocks contacting springs six to eight inches ahead of rear shackles. Position sling tow bar directly in front of spacer (fig. A-17).

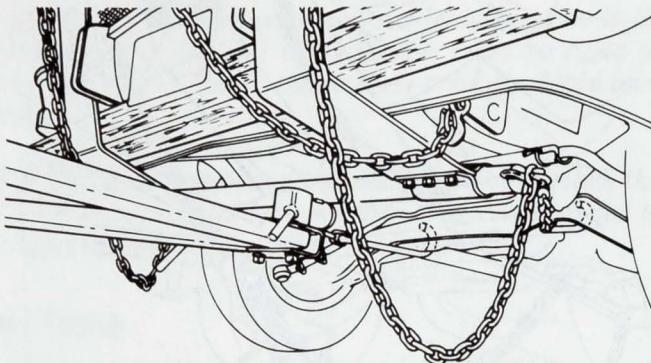


70323B

Fig. A-17 Rear Towing—Concord**AMX****Front Towing**

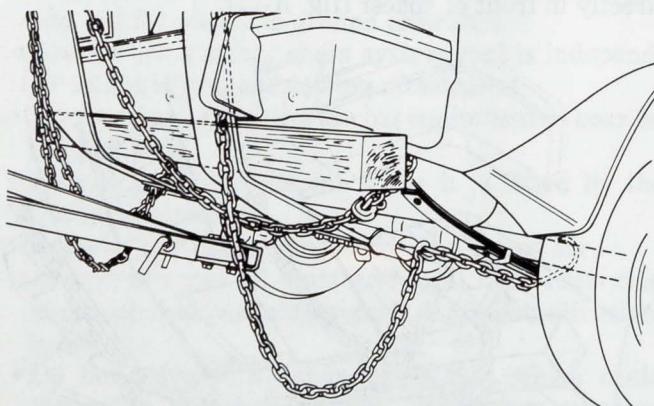
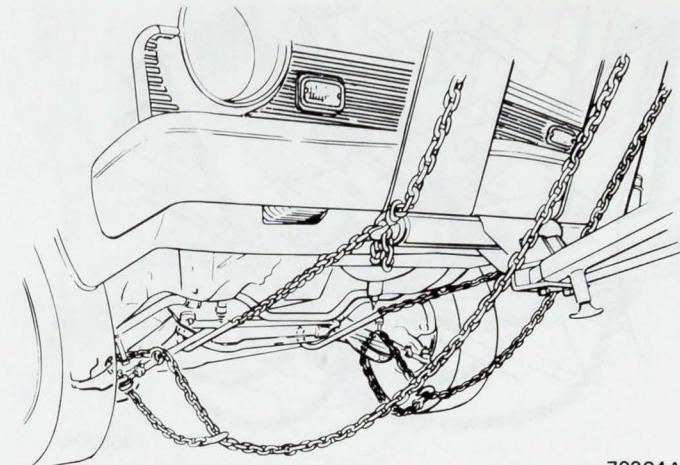
Attach J-hooks on rear of front crossmember near lower control arm pivot bolts. Position a 4-inch by 4-inch by 60-inch long wood spacer block under front bumper. Position sling tow bar 16 to 20 inches behind bumper.

Attach safety chains around energy absorber frame mounts (fig. A-18).

**Fig. A-18 Front Towing—AMX**

Rear Attach J-hooks on rear axle tubes between the springs and wheels. Position the 4 inch by 4 inch by 60-inch long wood spacer block across sling chains with blocks contacting springs 6 to 8 inches ahead of rear shackles. Position tow bar directly in front of spacer.

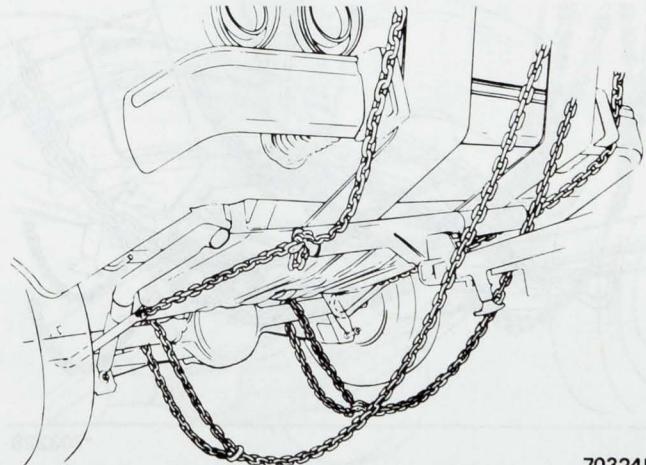
Attach safety chains around spring shackles.

**Fig. A-19 Rear Towing—AMX****Fig. A-20 Front Towing—Matador 2-Door**

Rear Towing

Attach J-hooks on rear axle tubes between the shock absorber mounting bracket and wheel. Use caution to avoid damage to brake line on top of axle tubes. Position sling tow bar directly under the rear crossmember.

Attach separate safety chains around center portion of axle tubes (fig. A-21).

**Fig. A-21 Rear Towing—Matador 2-Door**

Matador—2-Door Coupe

Front Towing

Attach J-hooks on the rear of the front crossmember at pivot pins. Position sling tow bar directly under the front bumper.

Attach separate safety chains around outboard end of lower control arms (fig. A-20).

Matador—4-Door

Front Towing

Attach J-hooks on the rear of the front crossmember inside the motor mounts. Position sling tow bar two to three inches behind the front bumper.

Attach separate safety chains around outboard end of lower control arms (fig. A-22).

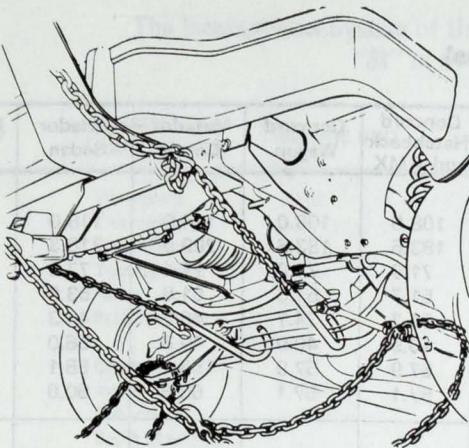


Fig. A-22 Front Towing—Matador 4-Door

Rear Towing

Attach J-hooks to the rear shock absorber mounting brackets on rear axle tubes. Position the wood spacer block across sling chains with blocks contacting angle brace at end of each side frame channel. Position the sling tow bar directly in front of the spacer.

Attach separate safety chains around ends of rear axle tubes. Use caution to avoid damage to brake line on top of axle tubes (fig. A-23).

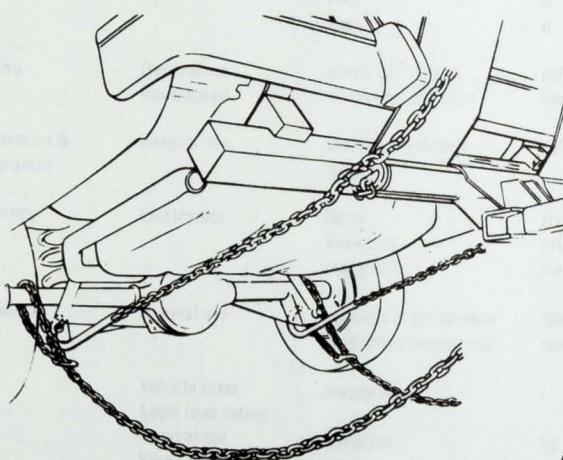


Fig. A-23 Rear Towing—Matador 4-Door

Matador—Station Wagon

Front Towing

Attach J-hooks on the rear of the front crossmember inside the motor mounts. Position sling tow bar two to three inches behind the front bumper.

Attach separate safety chains around outboard end of lower arms (fig. A-24).

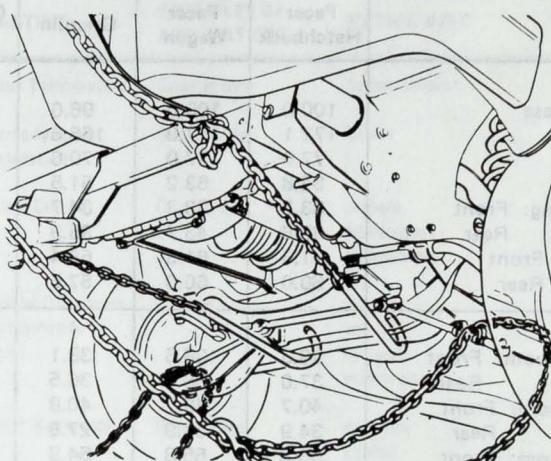


Fig. A-24 Front Towing—Matador Station Wagon

Rear Towing

Attach J-hooks on rear axle tube between the shock absorber mounting bracket and wheel. Use caution to avoid damage to brake line on top of axle tubes. Position the wood spacer block across sling chains with blocks contacting angle brace at end of each side frame channel. Position the sling tow bar directly in front of the spacer (fig. A-25).

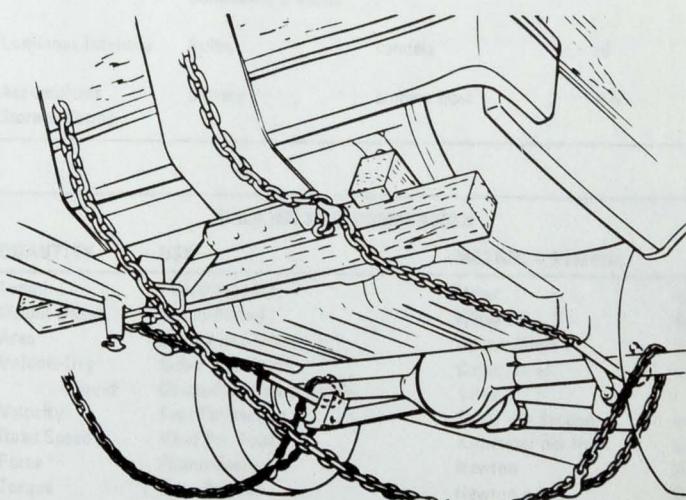


Fig. A-25 Rear Towing—Matador Station Wagon

General Dimensions (Inches)

	Pacer Hatchback	Pacer Wagon	Gremlin	Concord 2-Dr.	Concord 4-Dr.	Concord Hatchback and AMX	Concord Wagon	Matador Coupe	Matador Sedan	Matador Wagon
Exterior										
Wheelbase	100.0	100.0	96.0	108.0	108.0	108.0	108.0	114.0	118.0	118.0
Length	172.1	177.0	166.6	183.6	183.6	183.6	183.6	209.9	218.3	219.3
Width	77.0	77.0	70.6	71.0	71.0	71.0	71.0	77.4	77.3	77.2
Height	52.8	53.2	51.5	51.7	51.3	51.7	51.3	51.6	53.9	56.0
Overhang: Front	33.3	33.3	34.7	34.7	34.7	34.7	34.7	46.2	44.3	44.3
Rear	38.8	43.7	35.9	40.9	40.9	40.9	40.9	49.8	56.0	56.9
Tread: Front	61.5	61.5	58.4	58.4	58.4	57.9	57.9	58.1	58.1	58.1
Rear	60.0	60.0	57.5	57.5	57.5	57.1	57.1	60.6	60.6	60.6
Interior										
Head Room: Front	38.3	38.5	38.1	38.1	38.1	38.1	38.1	37.6	39.6	39.9
Rear	37.0	38.4	36.5	37.5	37.9	36.7	37.9	36.0	37.5	38.5
Leg Room: Front	40.7	40.7	40.8	40.8	40.8	40.8	40.8	43.0	42.8	42.8
Rear	34.9	34.9	27.8	35.7	36.1	31.1	36.1	33.3	39.6	39.6
Hip Room: Front	55.8	55.8	54.8	54.3	54.4	54.3	54.4	57.1	59.9	59.9
Rear	42.2	44.2	42.6	52.5	53.6	51.7	53.6	51.0	59.8	59.8
Shoulder Room: Front	57.3	57.3	54.9	54.0	54.0	54.0	54.0	59.8	59.7	59.7
Rear	51.2	51.2	53.0	53.2	53.4	52.4	53.4	59.0	60.0	60.0
Luggage Capacity (cu. ft.)	31.1	50.4	26.5	10.8	10.8	31.7	59.4	14.3	19.7	87.4

70088

Metric System—SI

The International System of Units (Système International d'Unités) officially abbreviated
"SI" in all languages — the modern metric system

QUANTITY	EXAMPLES OF APPLICATIONS	METRIC UNIT	SYMBOL	QUANTITY	EXAMPLES OF APPLICATIONS	METRIC UNIT	SYMBOL
Length	Dimensions Tire rolling circumference Turning circle/radius Braking distance Greater than 999 meter	meter kilometer	m km	Celsius Temperature Thermodynamic Temperature	General use	degree Celsius kelvin	°C K
	Dimensions Depth of surface finish	millimeter micrometer	mm μm	Electric Current Potential Difference (Electromotive Force)	General use	ampere millampere microampere	A mA μA
Area	Glass & Fabrics Brake & Clutch linings Radiator area etc.	square centimeter	cm ²	Electric Resistance	General use	kilovolt volt millivolt microvolt	kV V mV μV
	Small areas	square millimeter	mm ²	Electric Capacitance	General use	megohm kilohm ohm	MΩ kΩ Ω
Volume	Car Luggage Capacity Engine Capacity Vehicle fluid capacity	cubic meter liter cubic centimeter	m ³ l cm ³	Fuel Consumption Oil Consumption	Vehicle performance	farad microfarad picofarad liter per 100 kilometer	F μF pF l/100 km
Volume Flow	Gas & Liquid	liter per second	l/s	Stiffness	Vehicle performance	liter per 1000 kilometer	l/1000 km
Time Interval	Measurement of elapsed time	second minute hour day	s min h d	Tire Revolutions Pressure	Tire Data	revolution per kilometer	rev/km
Velocity	General use Road speed	meter per second kilometer per hour	m/s km/h	Tire Coolant Lubricating oil Fuel pump delivery Engine compression Manifold Brake line (hydraulic) Car heating & ventilation Barometric pressure	kilopascal	kPa	
Acceleration & Deceleration	General use	meter per second squared	m/s ²				
Frequency	Electronics	hertz kilohertz megahertz	Hz kHz MHz	Luminous Intensity	Bulbs	candela	cd
Rotational Speed	General use	revolution per minute revolution per second	rpm rps	Accumulator Storage Rating	Battery	ampere hour	A-h
Mass	Vehicle mass Legal load rating General use Small masses	megagram kilogram gram milligram	t kg g mg				
Density	General use	kilogram per cubic meter gram per cubic centimetre kilogram per liter	kg/m ³ g/cm ³ kg/l	Length Weight (mass) Area Volume-Dry -Liquid	Inch-Foot-Mile Ounce-Pound Square inch/Foot Cubic inch/Foot Dunce-Pint-Quart-Gallon	Meter Kilogram Square Meter Cubic Meter Liter	m kg m ² m ³ l
Force	Pedal effort Clutch spring force Handbrake lever effort etc.	newton	N	Velocity Road Speed Force Torque Power Pressure Temperature	Feet Per Second Miles Per Hour Pound-Force Foot-Pounds Horsepower Pounds Per Square Inch Degrees Fahrenheit	Meter per Second Kilometer per Hour Newton Newton meter Kilowatt 	m/s km/h N N-m kW kPa K °C
Moment of Force (Torque)	Torque	newton meter	N·m				
Power, Heat Flow Rate	General use Bulbs Alternator output Engine performance Starter performance	watt kilowatt	W kW				

U.S.A./METRIC COMPARISON		
QUANTITY	USA	METRIC — SYMBOL
Length	Inch-Foot-Mile	Meter
Weight (mass)	Ounce-Pound	Kilogram
Area	Square inch/Foot	Square Meter
Volume-Dry -Liquid	Cubic inch/Foot Dunce-Pint-Quart-Gallon	Cubic Meter
Velocity	Feet Per Second	Liter
Road Speed	Miles Per Hour	Meter per Second
Force	Pound-Force	Kilometer per Hour
Torque	Foot-Pounds	Newton
Power	Horsepower	Newton meter
Pressure	Pounds Per Square Inch	Kilowatt
Temperature	Degrees Fahrenheit	Kilopascal
		Degrees Kelvin and Celsius

Decimal Equivalents

MILLIMETER, DECIMAL, FRACTION AND DRILL SIZE

Millimeter	Decimal	Fraction	Drill Size	Millimeter	Decimal	Fraction	Drill Size	Millimeter	Decimal	Fraction	Drill Size	Millimeter	Decimal	Fraction
.1	.0039			1.75	.0689			.1570	.22			6.8	.2677	
.15	.0059				.0700		50	.40	.1575			6.9	.2716	
.2	.0079			1.8	.0709			.1590		21		.2720	I	.11.11 .4375 7/16
.25	.0098			1.85	.0728			.1610		20		.2756		.11.5 .4528
.3	.0118				.0730		49	.41	.1614			.2770	J	.11.51 .4531 29/64
.35	.0135	80		1.9	.0748			.1654				.2795	K	.11.91 .4687 15/32
.39	.0138				.0760		48	.425	.1660	19		.2811		.12.0 .4724
.4	.0145	79		1.95	.0767			.1673				.2812	9/32	.12.30 .4843 31/64
.45	.0156	1/64		1.98	.0781	5/64		.1693				.2835		.12.5 .4921
.4	.0157				.0785		47		.1695		18	.2854		.12.7 .5000 1/2
.45	.0160	78		2.0	.0787			.1719	11/64			.2874	L	.13.0 .5118
.45	.0177			2.05	.0807			.1730		17		.2900		.13.10 .5156 33/64
.5	.0180	77			.0810		46	.44	.1732			.2913	M	.13.49 .5312 17/32
.5	.0197				.0820		45		.1770		16	.2950		.13.5 .5315
.5	.0200	76		2.1	.0827			.1771				.2953		.13.89 .5469 35/64
.55	.0210	75		2.15	.0846			.1800		15		.2968	19/64	.14.0 .5512
.55	.0217				.0860		44	.46	.1811			.2992		.14.29 .5625 9/16
.6	.0225	74		2.2	.0866			.1820		14		.3020	N	.14.5 .5709
.6	.0236			2.25	.0885			.1850		13		.3031		.14.68 .5781 37/64
.6	.0240	73			.0890		43	.475	.1870			.3051		.15.0 .5906
.65	.0250	72		2.3	.0905			.1875	3/16			.3071		.15.08 .5937 19/32
.65	.0256			2.35	.0925			.1890		12		.3110		.15.48 .6094 39/64
.65	.0260	71			.0935		42		.1910		11	.3125	5/16	.15.5 .6102
.7	.0276			2.4	.0945			.1929				.3150		.15.88 .6250 5/8
.7	.0292	69			.0960		41		.1935	10		.3160	O	.16.0 .6299
.75	.0295			2.45	.0964			.1960		9		.3189		.16.27 .6406 41/64
.75	.0310	68			.0980		40		.1968		8	.3228	P	.16.67 .6562 21/32
.79	.0312	1/32		2.5	.0984			.1990				.3230		.17.0 .6693
.8	.0315				.0995		39		.2008			.3248		.17.06 .6719 43/64
.8	.0320	67			.1015		38	5.16	.2010	7		.3268		.17.46 .6875 11/16
.85	.0330	66		2.6	.1024			.2040		6		.3281	21/64	.17.5 .6890
.85	.0335				.1040		37	.52	.2047			.3307	Q	.17.86 .7031 45/64
.9	.0354	65		2.7	.1063			.2055		5		.3320		.18.0 .7087
.9	.0360	64		2.75	.1082			.2086				.3346		.18.26 .7187 23/32
.95	.0370	63		2.78	.1094	7/64		.2090		4		.3386		.18.65 .7344 47/64
.95	.0374				.1100		35	.54	.2126			.3437	11/32	.19.0 .7480
1.0	.0380	62		2.8	.1102			.2130		3		.3445		.19.05 .7500 3/4
1.0	.0390	61			.1110		34	.55	.2165			.3465		.19.45 .7656 49/64
1.0	.0394				.1130		33	5.56	.2187	7/32		.3480	S	.19.5 .7677
1.0	.0400	60		2.9	.1141			.2205				.3504		.19.84 .7812 25/32
1.05	.0410	59			.1160		32		.2210	2		.3543		.20.0 .7874
1.05	.0413	58		3.0	.1181			.2244				.3580	T	.20.24 .7969 51/64
1.05	.0420	57			.1200		31	5.75	.2263			.3583		.20.5 .8071
1.1	.0430			3.1	.1220			.2280	1			.3594	23/64	.20.64 .8125 13/16
1.15	.0433			3.18	.1250	1/8		.2283				.3622		.21.0 .8268
1.15	.0452			3.2	.1260			.2323				.3641		.21.03 .8281 53/64
1.19	.0465	56		3.25	.1279			.2340	A			.3661		.21.43 .8437 27/32
1.19	.0469	3/64			.1285		30	5.95	.2344	15/64		.3680	U	.21.5 .8465
1.2	.0472			3.3	.1299			.2362				.3701		.21.83 .8594 55/64
1.25	.0492			3.4	.1338			.2380	B			.3740		.22.0 .8661
1.3	.0512				.1360		29	.61	.2401			.3750	3/8	.22.23 .8750 7/8
1.35	.0520	55		3.5	.1378			.2420	C			.3770	V	.22.5 .8858
1.35	.0531				.1405		28	.62	.2441			.3780		.22.62 .8906 57/64
1.4	.0550	54		3.57	.1406	9/64		.2460	D			.3819		.23.0 .9055
1.45	.0570				.1417			.2480	E			.3838		.23.02 .9062 29/32
1.5	.0591	53			.1440		27	6.35	.2500	1/4		.3858		.23.42 .9219 59/64
1.55	.0610				.1457			.2520				.3860	W	.23.5 .9252
1.59	.0625	1/16			.1470		26	6.5	.2559			.3898		.23.81 .9375 15/16
1.6	.0629			3.8	.1496			.2610	G			.3970	X	.24.5 .9646
1.65	.0635	52			.1520		24	6.7	.2638			.4040	Y	.24.61 .9687 31/32
1.7	.0649			3.9	.1535			.2657		17/64		.4130	Z	.25.0 .9843
1.7	.0669				.1540		23	6.75	.2657			.4134		.25.03 .9844 63/64
1.7	.0670	51		3.97	.1562	5/32		.2660	H			.4134		.25.4 1.0000 1

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1978 AMC Technical Service Manual
Volume III—Body

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MAINTENANCE



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General Maintenance Schedule	B-1
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Services Scheduled by Accumulated Mileage	B-9
Services Scheduled by Conditions or Time	B-8
Six- and Eight-Cylinder Maintenance Schedule	B-5
Unscheduled Maintenance	B-18

GENERAL

This section describes the service procedures required by the 1978 Four-Cylinder and Six- and Eight-Cylinder Maintenance Schedules to keep AMC cars in good running condition. These services are based on changes in driving conditions, accumulated odometer mileage or time intervals, whichever comes first, or are unscheduled as required by changes in usage, handling or performance. The section is subdivided into three parts: (1) Services Required by Conditions or Time, (2) Services Scheduled by Accumulated Mileage and (3) Unscheduled Maintenance.

Maintenance Schedule

Two maintenance schedules are listed: one for cars with four-cylinder engines, and one for cars with six- or eight-cylinder engines. Each schedule is followed by detailed service charts. Be sure to refer to the correct maintenance schedule or chart for the car being serviced.

The services listed are those which experience and testing have indicated are the most likely needed at the mileage or time interval shown. When a car operates under the conditions listed, perform the maintenance described under "Required Services." Refer to the service charts for the list of maintenance items, and use the information in this section for service procedures.

Canadian Fuel and Maintenance Requirements

Cars equipped with six-cylinder engine and single-barrel carburetor may use regular, low-lead or unleaded fuels. All other models should use unleaded fuel only.

All service requirements in the Maintenance Schedules apply to cars sold in Canada. Canadian cars should receive the following additional maintenance services:

- All cars equipped with six- or eight-cylinder engine, lubricate exhaust heat valve at each oil change—every 7 months or 7,500 miles (12,000 km), whichever comes first.
- All cars equipped with six-cylinder engine and one-barrel carburetor, perform an engine tune-up every 15 months or 15,000 miles (24,000 km), whichever comes first.

1978 ■ AMC FOUR-CYLINDER MAINTENANCE SCHEDULE

OWNER RESPONSIBILITY	It is the owner's responsibility to determine driving conditions, to have the car serviced according to the Maintenance Schedule, and to pay for necessary parts and labor.			
INSTRUCTIONS	Read "CONDITIONS" and determine which apply to your driving situation. Under the conditions listed, perform the maintenance described under "REQUIRED SERVICES."			
CONDITIONS	REQUIRED SERVICES			
SHORT-TRIP DRIVING	For proper engine protection, check engine oil level every 500 to 600 miles (800 to 960 km). Change oil and filter every 5,000 miles (8,000 km) or 5 months, whichever comes first. When most driving involves trips of less than 6 miles (10 km), change oil once between scheduled oil and filter changes.			
HEAVY-DUTY DRIVING	In police, taxi, commercial load-carrying or delivery use, change automatic transmission fluid and filter, and adjust bands every 15,000 miles (24,000 km) or 15 months, whichever comes first. For standard duty, no automatic transmission maintenance is required except regular fluid level checks.			
START OF WINTER	Inspect battery condition and clean battery cables. Change engine coolant (antifreeze/water mixture) after 25,000 miles (40,000 km) or 25 months, whichever comes first, and then at the start of every winter season.			
ACCUMULATED MILEAGE OR KILOMETERS	At each mileage interval shown, perform the service checked below. Four charts follow that list the maintenance items for each service.			
		CHART 1 • OIL CHANGE SERVICE • EMISSION CONTROL INSPECTION	CHART 2 • OIL CHANGE SERVICE • ENGINE DRIVE BELT INSPECTION	CHART 3 • OIL CHANGE SERVICE • ENGINE MAINTENANCE • BRAKE AND CHASSIS INSPECTION • BODY LUBRICATION
	MILES			CHART 4 • OIL CHANGE SERVICE • ENGINE TUNE-UP • BRAKE AND CHASSIS INSPECTION • CHASSIS LUBRICATION • BODY LUBRICATION
8,000	5,000	✓		
16,000	10,000		✓	
24,000	15,000			✓
32,000	20,000		✓	
40,000	25,000		✓	
48,000	30,000			✓
56,000	35,000		✓	
64,000	40,000		✓	
72,000	45,000			✓
80,000	50,000		✓	
88,000	55,000		✓	
96,000	60,000			✓
104,000	65,000		✓	
112,000	70,000		✓	
120,000	75,000			✓
128,000	80,000		✓	
136,000	85,000		✓	
144,000	90,000			✓

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CHART 1 – FOUR-CYLINDER

- OIL CHANGE SERVICE
- EMISSION CONTROL INSPECTION

● **OIL CHANGE SERVICE**

Drain engine oil, replace oil filter and refill engine.

Check fluid levels:

engine coolant	manual transmission
brake master cylinder	automatic transmission
manual steering gear	rear axle differential
power steering pump	windshield washer reservoir

Clean windshield wiper blade elements.

● **EMISSION CONTROL INSPECTION**

Retorque cylinder head bolts.

Adjust engine valves.

Check condition and tension of fan/alternator, power steering and air pump drive belts, and adjust if necessary.

Check and adjust curb and high idle speeds.

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CHART 2 – FOUR-CYLINDER

- OIL CHANGE SERVICE
- ENGINE DRIVE BELT INSPECTION

● **OIL CHANGE SERVICE**

Drain engine oil, replace oil filter and refill engine.

Check fluid levels:

engine coolant	automatic transmission
brake master cylinder	rear axle differential
power steering pump	windshield washer reservoir
manual transmission	

Clean windshield wiper blade elements.

● **ENGINE DRIVE BELT INSPECTION**

Check condition and tension of fan/alternator, power steering and air pump drive belts, and adjust if necessary.

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CHART 3 – FOUR-CYLINDER

- OIL CHANGE SERVICE
- ENGINE MAINTENANCE
- BRAKE AND CHASSIS INSPECTION
- BODY LUBRICATION

● **OIL CHANGE SERVICE**

Drain engine oil, replace oil filter and refill engine.

Check fluid levels:

battery	manual transmission
engine coolant	automatic transmission
brake master cylinder	rear axle differential
power steering pump	windshield washer reservoir

Clean windshield wiper blade elements.

● **ENGINE MAINTENANCE**

Retorque cylinder head bolts.

Adjust engine valves.

Check condition and tension of fan/alternator, power steering and air pump drive belts, and adjust if necessary.

Replace fuel filter, ignition points and condenser.

Check and adjust ignition timing.

● **BRAKE AND CHASSIS INSPECTION**

Inspect the following items as indicated. Correct to specifications as necessary:

Brakes

Front and rear brake linings for wear.

Rear brake self-adjusting mechanism for proper operation.

Master cylinder, calipers, wheel cylinders and differential warning valve for leaks.

Brake lines, fittings, hoses and other parts for condition and leaks.

Parking brake for proper operation.

Overall brake condition and action.

Steering/Suspension

Manual or power steering gear and linkage for leaks, looseness or wear.

Springs, shock absorbers and bushings for leaks, looseness or wear.

Tire condition.

Overall steering/suspension condition and action.

Also:

Lubricate front disc brake caliper abutment surfaces.

Adjust parking brake, if necessary.

Adjust tire pressures to specifications.

Adjust manual transmission clutch free play, if necessary.

● **BODY LUBRICATION**

Lubricate the following items with the recommended lubricant:

ashtray slides

door, hood and liftgate latches

door, hood and liftgate hinges

door, window and liftgate weather seals

key lock cylinders

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CHART 4 – FOUR-CYLINDER

- **OIL CHANGE SERVICE**
- **ENGINE TUNE-UP**
- **BRAKE AND CHASSIS INSPECTION**
- **CHASSIS LUBRICATION**
- **BODY LUBRICATION**

● OIL CHANGE SERVICE

Drain engine oil, replace oil filter and refill engine.

Check fluid levels:

battery	automatic transmission
engine coolant	manual transmission
brake master cylinder	rear axle differential
manual steering gear	windshield washer reservoir
power steering pump	

Clean windshield wiper blade elements.

● ENGINE TUNE-UP

Examine the components listed under each system for proper assembly, condition and operation. Correct, adjust or service to specifications as necessary.

Engine Mechanical SystemsInspect:

- Air Guard system hoses
- condition and tension of fan/alternator, power steering and air pump drive belts
- vacuum lines and fittings, Exhaust Gas Recirculation lines, hoses and connections

Also:

Retorque cylinder head bolts.

Adjust engine valves.

Adjust drive belts, if necessary.

Ignition SystemInspect:

- coil and spark plug wires
 - distributor — cap and rotor, vacuum and centrifugal advance mechanisms, distributor shaft and cam lobes
 - transmission controlled spark system (TCS), if equipped
- Replace ignition points, condenser and spark plugs.

Fuel SystemInspect:

- fuel tank, cap, lines and connections
- air cleaner thermostatic control system (TAC)
- choke linkage for free movement
- PCV system hoses and solenoid (solenoid on manual transmission only)

Clean PCV filter in air cleaner.

Replace PCV valve, fuel filter, air filter element and charcoal canister air inlet filter.

Final Adjustment

Ignition timing

Idle mixture

Curb and high idle speeds

● BRAKE AND CHASSIS INSPECTION

Inspect the following items as indicated. Correct to specifications as necessary:

Brakes

Front and rear brakelinings for wear.

Rear brake self-adjusting mechanism for proper operation. Master cylinder, calipers, wheel cylinders and differential

warning valve for leaks.

Brake lines, fittings, hoses and other parts for condition and leaks.

Parking brake for proper operation.

Overall brake condition and action.

Steering/Suspension

Manual or power steering gear and linkage for leaks, looseness or wear.

Springs, shock absorbers and bushings for leaks, looseness or wear.

Tire condition.

Overall steering/suspension condition and action.

Also:

Lubricate front disc brake caliper abutment surfaces.

Adjust parking brake, if necessary.

Adjust tire pressure to specifications.

Adjust manual transmission clutch free play, if necessary.

● CHASSIS LUBRICATION

Replace torn or ruptured grease seals and/or damaged steering/suspension components, and lubricate the following:

- clutch lever and linkage
- front ball joints (4)
- turning stops (2 places)
- tie rod inner ball joints (2)

Also:

Repack front wheel bearings.

Drain and refill rear axle lubricant.

Note: U-joints and rear wheel bearings do not require periodic or scheduled lubrication.

● BODY LUBRICATION

Lubricate the following items with the recommended lubricant:

- ashtray slides
- door, hood and liftgate latches
- door, hood and liftgate hinges
- door, window and liftgate weather seals
- key lock cylinders

1978 ■ AMC SIX- AND EIGHT-CYLINDER MAINTENANCE SCHEDULE

OWNER RESPONSIBILITY	It is the owner's responsibility to determine driving conditions, to have the car serviced according to the Maintenance Schedule, and to pay for necessary parts and labor.			
INSTRUCTIONS	Read "CONDITIONS" and determine which apply to your driving situation. Under the conditions listed, perform the maintenance described under "REQUIRED SERVICES."			
CONDITIONS	REQUIRED SERVICES			
SHORT-TRIP DRIVING	For proper engine protection, check engine oil level every 500 to 600 miles (800 to 960 km). Change oil and filter every 7,500 miles (12,000 km) or 7 months, whichever comes first. When most driving involves trips of less than 6 miles (10 km), change oil once between scheduled oil and filter changes.			
HEAVY-DUTY DRIVING	In police, taxi, commercial load-carrying or delivery use, change automatic transmission fluid and filter, and adjust bands every 15,000 miles (24,000 km) or 15 months, whichever comes first. For standard duty, no automatic transmission maintenance is required except regular fluid level checks.			
START OF WINTER	Inspect battery condition and clean cables. Change engine coolant (antifreeze/water mixture) after 25,000 miles (40,000 km) or 25 months, whichever comes first, and then at the start of every winter season.			
ACCUMULATED MILEAGE OR KILOMETERS	At each mileage interval shown, perform the service checked below. Four charts follow that list the maintenance items for each service.			
km	MILES	CHART 1 • EMISSION CONTROL INSPECTION	CHART 2 • OIL CHANGE SERVICE *	CHART 3 • OIL CHANGE SERVICE * • ENGINE MAINTENANCE * • BRAKE AND CHASSIS INSPECTION • BODY LUBRICATION
8,000	5,000	✓		
12,000	7,500		✓	
24,000	15,000			✓
36,000	22,500		✓	
48,000	30,000			
60,000	37,500		✓	
72,000	45,000			✓
84,000	52,500		✓	
96,000	60,000			
108,000	67,500		✓	
120,000	75,000			✓
132,000	82,500		✓	
144,000	90,000			✓

*For cars sold in Canada, refer to Canadian Fuel and Maintenance Requirements.

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Function timing
Idle mixture
Carburetor adjustment

* During extended high temperature and/or
idle mixture operation, the drive may be
subjected to overheating and/or
excessive fuel consumption. This could result
in damage to the engine.

** During extended high temperature and/or
idle mixture operation, the drive may be
subjected to overheating and/or
excessive fuel consumption. This could result
in damage to the engine.

CHART 1 – SIX- AND EIGHT-CYLINDER
• EMISSION CONTROL INSPECTION

Check and adjust fan/alternator, power steering, air pump and air conditioning drive belts.
Check and adjust curb and high idle speeds.

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CHART 2 – SIX- AND EIGHT-CYLINDER
• OIL CHANGE SERVICE

Drain engine oil, replace oil filter and refill engine.

Check fluid levels:

engine coolant	manual transmission
brake master cylinder	automatic transmission
manual steering gear*	rear axle differential
power steering pump	windshield washer reservoir

Check pressure on compact spare tire (if equipped).

Clean windshield wiper blade elements.

*Check at first service, at 30,000 miles, then every 30,000 miles.

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CHART 3 – SIX- AND EIGHT-CYLINDER

- OIL CHANGE SERVICE
- ENGINE MAINTENANCE
- BRAKE AND CHASSIS INSPECTION
- BODY LUBRICATION

• OIL CHANGE SERVICE

Drain engine oil, replace oil filter and refill engine.

Check fluid levels:

battery	manual transmission
engine coolant	automatic transmission
brake master cylinder	rear axle differential
power steering pump	windshield washer reservoir

Check pressure on compact spare tire (if equipped).

Clean windshield wiper blade elements.

• ENGINE MAINTENANCE

Check and adjust fan/alternator, power steering, air pump and air conditioning drive belts.

Replace fuel filter.

Note: On Pacer, Concord, AMX with eight-cylinder engine, also perform the following services. Correct as necessary.

Inspect:

choke linkage for free movement
vacuum fittings, Exhaust Gas Recirculation lines,
hoses and connections

Check idle mixture.

Check curb and high idle speeds.

Check ignition timing.

• BRAKE AND CHASSIS INSPECTION

Inspect the following items as indicated. Correct to specifications as necessary:

Brakes

Front and rear brakelinings for wear.

Rear brake self-adjusting mechanism for proper operation.

Master cylinder, calipers, wheel cylinders and differential warning valve for leaks.

Brake lines, fittings, hoses and other parts for condition and leaks.

Parking brake for proper operation.

Overall brake condition and action.

Steering/Suspension

Manual or power steering gear and linkage for leaks, looseness or wear.

Springs, shock absorbers and bushings for leaks, looseness or wear.

Tire condition

Overall steering/suspension condition and action.

Also:

Lubricate front disc brake caliper abutment surfaces.

Adjust parking brake, if necessary.

Adjust tire pressures to specifications.

Adjust manual transmission clutch free play, if necessary.

• BODY LUBRICATION

Lubricate the following items with the recommended lubricant:

ashtray slides	000.01	000.01
door, hood, trunk, tailgate and liftgate latches	000.01	000.01
door, hood, trunk, tailgate and liftgate hinges	000.01	000.01
door, window, trunk, tailgate and liftgate weather seals	000.01	000.01
key lock cylinders	000.01	000.01

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CHART 4 – SIX- AND EIGHT-CYLINDER**• OIL CHANGE SERVICE****• ENGINE TUNE-UP****• BRAKE AND CHASSIS INSPECTION****• CHASSIS LUBRICATION****• BODY LUBRICATION****• OIL CHANGE SERVICE**

Drain engine oil, replace oil filter and refill engine.

Check fluid levels:

battery	automatic transmission
engine coolant	manual transmission
brake master cylinder	rear axle differential
manual steering gear	windshield washer reservoir
power steering pump	

Check pressure on compact spare tire (if equipped).

Clean windshield wiper blade elements.

• ENGINE TUNE-UP

Examine the components listed under each system for proper assembly, condition and operation. Correct, adjust or service to specifications as necessary.

Engine Mechanical Systems

Inspect:

- Air Guard system hoses
- condition and tension of fan/alternator, power steering, air pump and air conditioning drive belts
- vacuum lines and fittings, Exhaust Gas Recirculation lines, hoses and connections

Also:

Adjust drive belts, if necessary.*

Lubricate exhaust heat valve.

Ignition System

Inspect:

- coil and spark plug wires
- distributor — cap and rotor, vacuum and centrifugal advance mechanisms
- transmission controlled spark system (TCS), if equipped

Replace spark plugs.

Fuel System

Inspect:

- fuel tank, cap, lines and connections
- air cleaner thermostatic control system (TAC)
- choke linkage for free movement
- PCV system hoses

Clean PCV filter (6-cylinder in air cleaner, V-8 in oil filler cap). Replace PCV valve, fuel filter, air cleaner element and charcoal canister air inlet filter.

Final Adjustment

Ignition timing

Idle mixture

Curb and high idle speeds

* During extended high temperature and extensive air conditioner operation, the drive belts may require more frequent inspection and adjustment.

• BRAKE AND CHASSIS INSPECTION

Inspect the following items as indicated.

Correct to specifications as necessary.

Brakes

Front and rear brakelinings for wear.

Rear brake self-adjusting mechanism for proper operation. Master cylinder, calipers, wheel cylinders and differential warning valve for leaks.

Brake lines, fittings, hoses and other parts for condition and leaks.

Parking brake for proper operation.

Overall brake condition and action.

Steering/Suspension

Manual or power steering gear and linkage, for leaks, looseness or wear.

Springs, shock absorbers and bushings for leaks, looseness or wear.

Tire condition.

Overall steering/suspension condition and action.

Also:

Lubricate front disc brake caliper abutment surfaces.

Adjust parking brake, if necessary.

Adjust manual transmission clutch free play, if necessary.

• CHASSIS LUBRICATION

Replace torn or ruptured grease seals and/or damaged steering/suspension components, and lubricate the following:

- clutch lever and linkage
- front ball joints (4)
- turning stops (2 places)
- tie rod inner ball joints (2)

Also:

Repack front wheel bearings.

Drain and refill rear axle lubricant.

Note: U-joints and rear wheel bearings do not require periodic or scheduled lubrication.

• BODY LUBRICATION

Lubricate the following items with the recommended lubricant:

- ashtray slides
- door, hood, trunk, tailgate and liftgate latches
- door, hood, trunk, tailgate and liftgate hinges
- door, window, trunk, tailgate and liftgate weather seals
- key lock cylinders

SERVICES SCHEDULED BY CONDITIONS OR TIME

	Page
At Start of Winter	B-8
Heavy-Duty Driving	B-8
Short-Trip Driving	B-8

SHORT-TRIP DRIVING

When most driving involves trips of less than six miles (10 km), change engine oil once between scheduled oil and filter changes. Replace oil filter every other oil change.

HEAVY-DUTY DRIVING

Heavy-duty driving refers to fleet or police use and commercial delivery or load-carrying. For cars in heavy-duty use, change automatic transmission fluid and filter and adjust bands every 15,000 miles (24,000 km) or 15 months, whichever comes first. Owners should also arrange for service upon signs of changing shift patterns.

NOTE: *The automatic transmission torque converter has no drain plug.*

For commercial load-carrying applications, owners should be careful not to overload or operate the car in a manner that would cause brake, engine, axle, steering, suspension or other failure.

AT START OF WINTER

Perform the following maintenance services at the start of every winter season:

Battery Service

WARNING: *Do not service the battery without wearing safety glasses, rubber gloves and protective clothing. Battery electrolyte contains sulfuric acid and must be kept away from skin, eyes, clothing and painted surfaces. If acid contacts any of these, flush immediately with large amounts of water. Get medical attention. Don't smoke while checking or servicing the battery and keep open flames or sparks away from battery filler caps since explosive gas is always present.*

- (1) Disconnect battery negative cable and then the positive cable.
- (2) Clean the cables and terminal posts with a wire brush terminal cleaner.
- (3) Check the battery fluid level and replenish if necessary (fig. B-1).

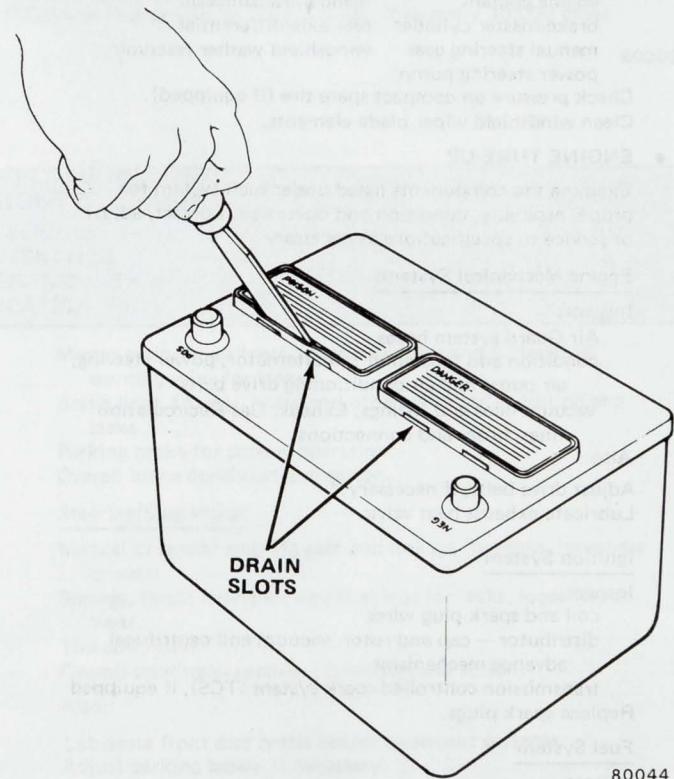


Fig. B-1 Removing Battery Filler Caps

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- (4) Remove the battery holdown and clean the battery and battery box, if necessary, with a solution of baking soda and water, then rinse thoroughly.
- (5) Tip the battery slightly to drain dirty water through the slots provided.
- (6) Fasten the battery holdown, but do not overtighten.
- (7) Attach positive cable and then the negative cable.
- (8) Apply a small amount of grease or protective coating to the cable ends to minimize corrosion.

Engine Coolant

Change engine coolant after the first 25,000 miles (40,000 km) or 25 months, whichever comes first, and then at the start of every winter season. Refer to Chapter 1C—Cooling Systems, Volume 1—Power Plant for draining and refilling procedures.

SERVICES SCHEDULED BY ACCUMULATED MILEAGE

	Page
Body Lubrication	B-9
Brake and Chassis Inspection	B-9
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	Page
Engine Drive Belt Inspection	B-13
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Engine Tune-Up	B-14
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BODY LUBRICATION

Lubricate the items listed using the product specified in the Recommended Fluids and Lubricants Chart at the end of this section. When lubricating weather seals, apply the lubricant to a rag and wipe it on the seal to prevent dust-collecting overspray which can soil passenger clothing.

BRAKE AND CHASSIS INSPECTION

Brakes

Inspect linings for wear, cracks, charred surfaces or broken rivets, and for contamination by brake fluid, axle lubricant or other contaminants.

Front Brakelinings

Check both ends of the outboard lining by looking in at each end of the caliper (fig. B-2). These are the points at which the highest rate of wear normally occurs. At the same time, check the lining thickness of the inboard shoe to make sure that it has not worn prematurely. Look through the inspection port to view the inboard shoe and lining. Whenever the thickness of any lining is worn to the approximate thickness of the metal shoe, all shoe and lining assemblies on both brakes should be replaced.

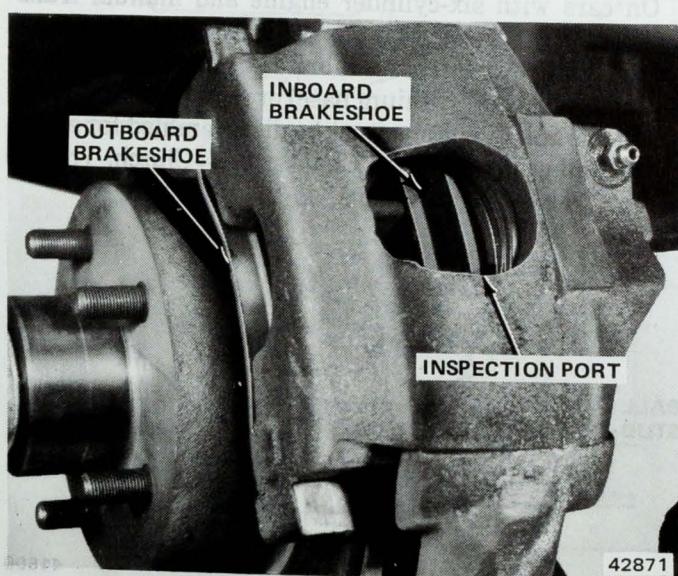


Fig. B-2 Disc Brake Inspection Port

Rear Brakelinings

Replace linings worn to within 1/32-inch (0.8 mm) of rivet head.

Rear Self-Adjusting Mechanism

Operate the adjuster cable and check for ease of operation of the adjuster screw assembly. Check condition of the adjuster components for bending, frayed cables, loose or overheated springs, or binding.

Master Cylinder

Inspect the cap bail for proper tension and fit. The cap should maintain a tight seal. Check the rubber diaphragm seal for cracks, cuts or distortion. Check fittings and housing for signs of leakage. If internal leaks are suspected, or if fluid loss occurs but a leak is not evident, check for leaks at the rear of the master cylinder. Correct as required.

Disc Brake Calipers

Check dust boot for correct installation, tears or signs of leakage. Check caliper abutment surfaces for binding or corrosion. Apply recommended lubricant to caliper abutment surfaces.

Rear Wheel Cylinders

Pull the dust boot back and inspect for leaks. Check the condition of the pistons and cylinder bores.

Differential Warning Valve

Check the valve and housing for signs of leaks, kinked lines or loose fittings.

Brake Lines, Fittings and Hoses

Check for cracks, swelling, kinks, distortion or leaks. Also check position to be sure no lines are rubbing against exhaust system parts or other components.

Parking Brake

Operate the parking brake pedal and brake release and check for smooth operation and brake holding ability. Inspect cables for binds, kinks or frays. With the brake released, the rear wheels should turn freely. Adjust the parking brake, if necessary, as described in Chapter 2—Brakes, Volume 2—Chassis.

Overall Brake Condition and Action

Check for improper brake action, performance complaints or signs of overheating, dragging or pulling. Correct as required.

Steering/Suspension

Inspect condition and functioning of car front suspension and steering system components. The inspection procedure should consist of a visual and manual (hands-on) check of all parts followed by a road test to verify steering action and response. Do not check or correct front suspension alignment angles unless an inspection and road test indicate adjustment may be necessary.

Visual and Manual Inspections

A visual-manual inspection should include these items:

- Upper and lower control arms
- Steering linkage and tie rod ends
- Strut rods and brackets
- Ball joint nuts and cotter keys
- Sway stabilizer-to-lower control arm links
- Shock absorbers and mounting hardware
- Steering arms
- Pitman arm
- Steering gear box
- Steering shafts and flex coupling
- Power steering pump belt and hoses
- Wheels and tires

During the visual-manual inspection, check for:

- Loose attaching bolts and nuts
- Worn or loose bushings (control arms, sway stabilizer, idler arm, strut rods)
- Bent control arms or tie rods
- Leaking shock absorbers, power steering pump or hoses, and steering gear
- Broken coil springs
- Frayed or torn power steering pump drive belt
- Bent or cracked wheels
- Prematurely or abnormally worn tires
- Incorrect tire pressures
- Mismatched tire types or sizes

Road Test

Prior to road testing, check and correct tire inflation pressures. Refer to glove box sticker or Chapter 2G—Wheels and Tires, Volume Two—Chassis for recommended pressures. Then, check for any of the following conditions:

- Wander or erratic steering
- Hard Steering
- Improper steering recovery (return from center) on turns
- Bind when turning steering wheel from lock to lock while car is at a standstill (cars with power steering only)

NOTE: Transmission in Neutral or Park, parking brake applied, foot brake released and engine running.

- Any abnormal noises that may indicate loose or worn suspension or steering components

Correct any problems that show up as a result of the visual-manual inspection and road test.

Manual Transmission Clutch Inspection and Adjustment

Inspect clutch by driving vehicle and checking for clutch chatter, grabbing, slippage, and incomplete release. Check clutch pedal free play: four-cylinder engine 1/2 to 1-inch (12.7 to 25.4 mm); six-cylinder engine 7/8 to 1-1/8 inches (22.2 to 28.6 mm). Correct or adjust as required. Refer to Chapter 2A—Clutch, Volume Two—Chassis for detailed procedures.

CHASSIS LUBRICATION

Inspect suspension grease seals for leaks or tears, and replace if necessary. Also inspect steering/suspension components for damage that requires replacement. Lubricate the following components every 30,000 miles (48,000 km), every 15,000 miles (24,000 km) for components (as determined by inspection) affected by abnormally wet or dusty driving conditions.

NOTE: Universal joints and rear wheel bearings do not require periodic or scheduled lubrication.

Always clean lube fittings before applying lubricant to prevent dirt from entering the unit. For types and grades of lubricants, refer to Recommended Fluids and Lubricants chart.

Six-Cylinder Clutch Bellcrank Pivot

On cars with six-cylinder engine and manual transmission, lubricate the clutch bellcrank pivot ball studs using AMC All-Purpose lubricant, or Multi-Purpose Chassis Lubricant (lithium base) or equivalent (fig. B-3). The bellcrank assembly must be disassembled for access to the ball studs. Refer to Chapter 2A—Clutch, Volume Two—Chassis for procedure.

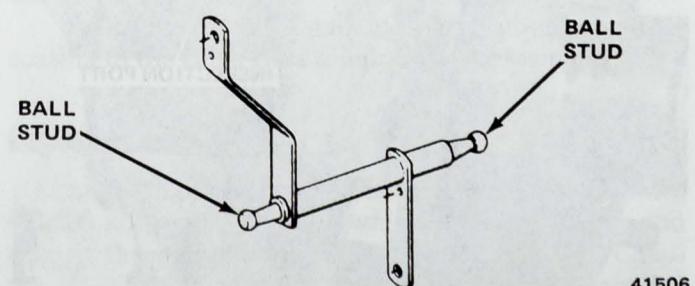


Fig. B-3 Six-Cylinder Clutch Bellcrank Pivot Ball Studs

Front Suspension Ball Joints

Remove lube plugs (fig. B-4 and B-5) and temporarily install lube fittings. Lubricate using Manual Lubrication Gun Tool J-9670 with lithium-base cartridge lubricant. The manual lube gun is designed to deliver lubricant at low pressure (6 to 8 psi) to avoid damaging the ball joint lube seals.

CAUTION: Use of guns which deliver lube at high pressure could rupture ball joint seals. Apply lube slowly. There should be no visual evidence of lube escaping past seals.

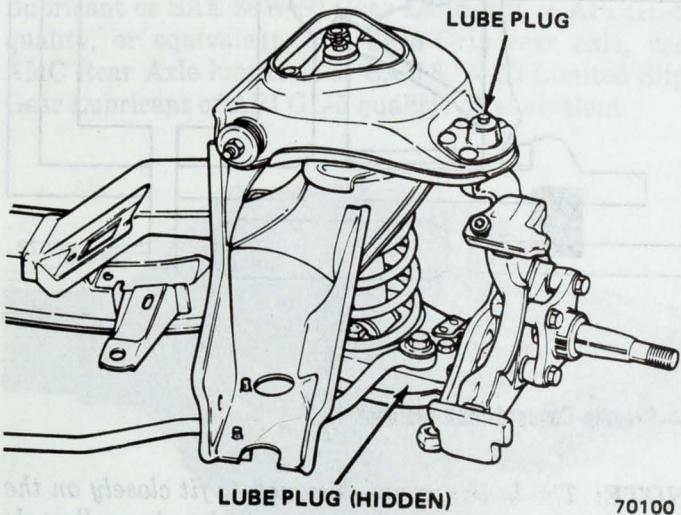


Fig. B-4 Ball Joint Lube Plugs—Pacer

When lubrication is completed, remove lube fittings and install lube plugs.

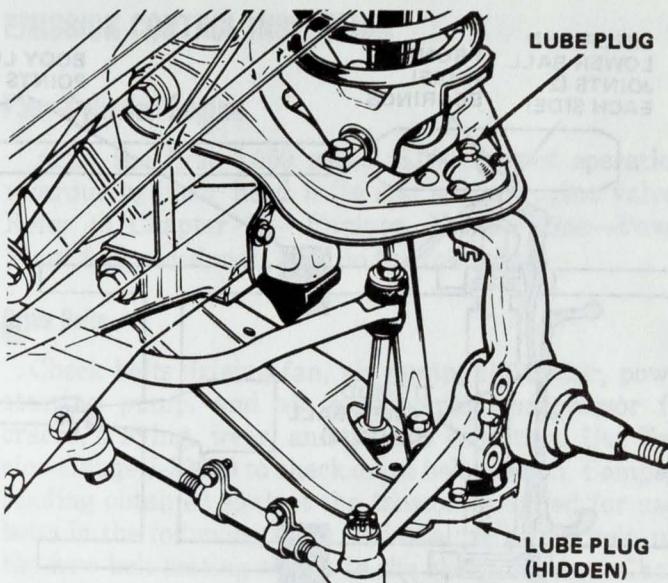


Fig. B-5 Ball Joint Lube Plugs—Gremlin-Concord-AMX-Matador

Tie Rod Inner Ball Joints

Remove lube plugs (fig. B-6 and B-7) and temporarily install lube fittings. Lubricate with lithium base lubricant. Remove lube fittings and install lube plugs.

Turning Radius (Steering Arm) Stops

The turning radius of the front wheels is controlled by a steering stop on Gremlin, Concord, AMX and Matador models. On full turns the steering stop contacts the strut rod, resulting in a creaking sound. To eliminate this noise apply a daub of Multi-Purpose Chassis Lubricant to the stop (fig. B-8).

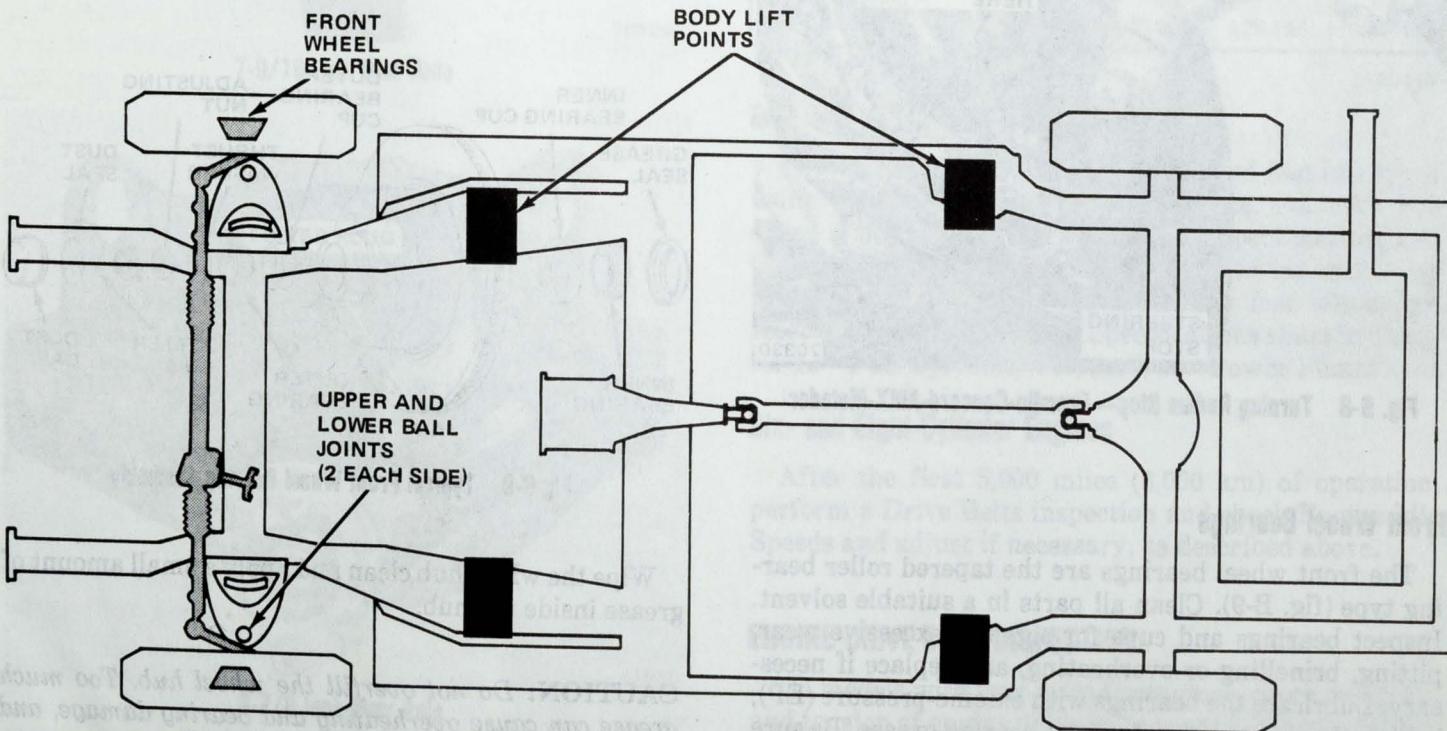


Fig. B-6 Chassis Lubrication Points—Pacer

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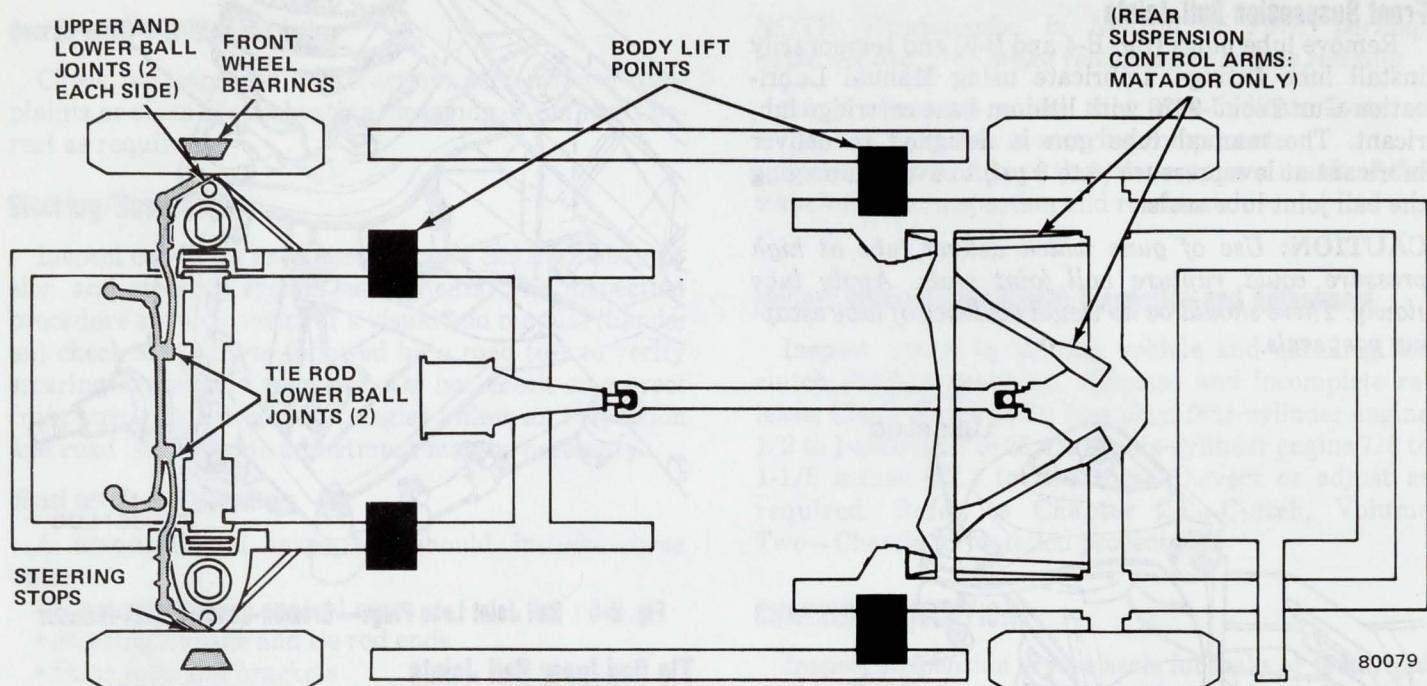


Fig. B-7 Chassis Lubrication Points—Gremlin-Concord-AMX-Matador

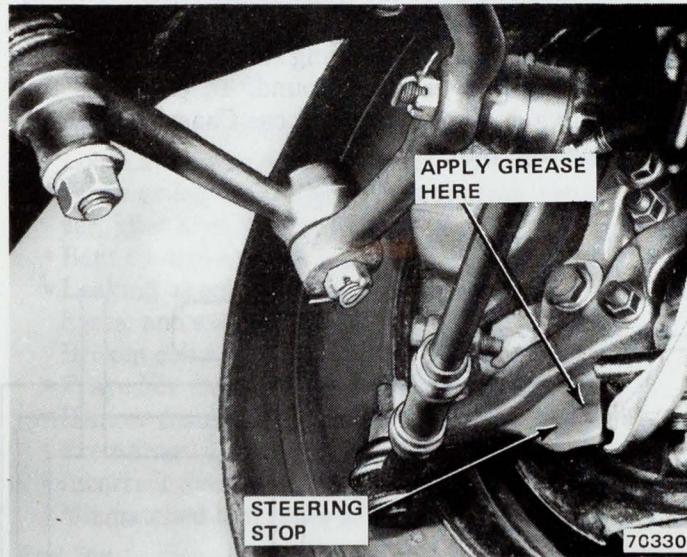


Fig. B-8 Turning Radius Stop—Gremlin-Concord-AMX-Matador

NOTE: The bearings are designed to fit closely on the spindle, but loose enough to creep so bearing rollers do not always wear in one spot. Polish the spindle with fine crocus cloth if necessary for proper fit. Always wipe the spindle clean and apply a small amount of grease for lubrication and to prevent rust.

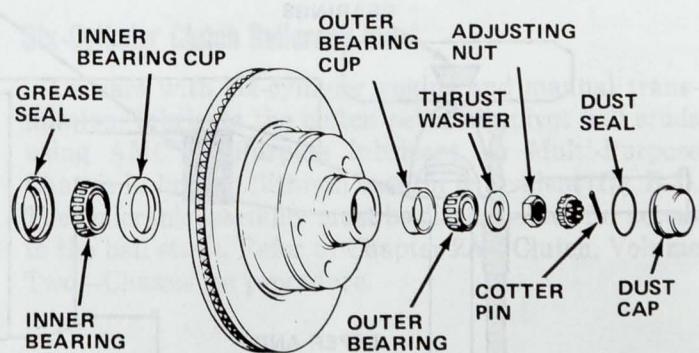


Fig B-9 Typical Front Wheel Bearing Assembly

Front Wheel Bearings

The front wheel bearings are the tapered roller bearing type (fig. B-9). Clean all parts in a suitable solvent. Inspect bearings and cups for signs of excessive wear, pitting, brinelling or overheating, and replace if necessary. Lubricate the bearings with extreme-pressure (EP), lithium-base, waterproof, wheel bearing grease. Be sure to force grease between rollers.

Wipe the wheel hub clean and apply a small amount of grease inside the hub.

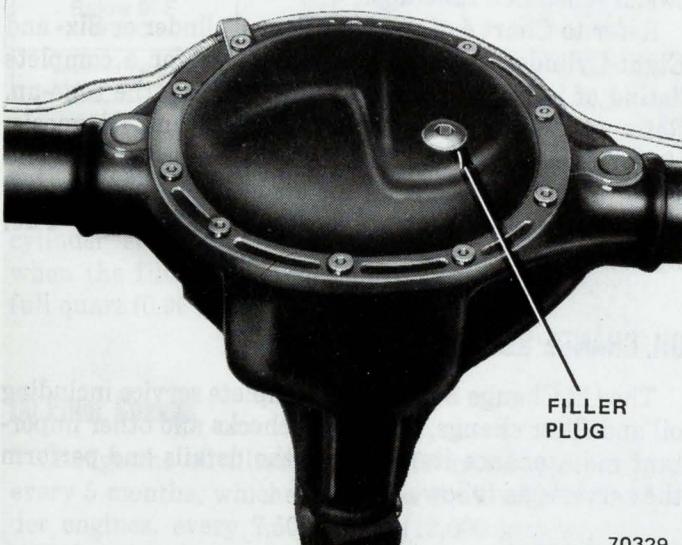
CAUTION: Do not overfill the wheel hub. Too much grease can cause overheating and bearing damage, and it can leak and contaminate brake linings.

Install the inner bearing and a replacement grease seal. Assemble the hub assembly and adjust bearings as described in Chapter 2G—Wheels and Tires, Volume 2—Chassis. Inspect bearings, and clean and repack if necessary, when they are removed for other services.

Rear Axle Fluid Change

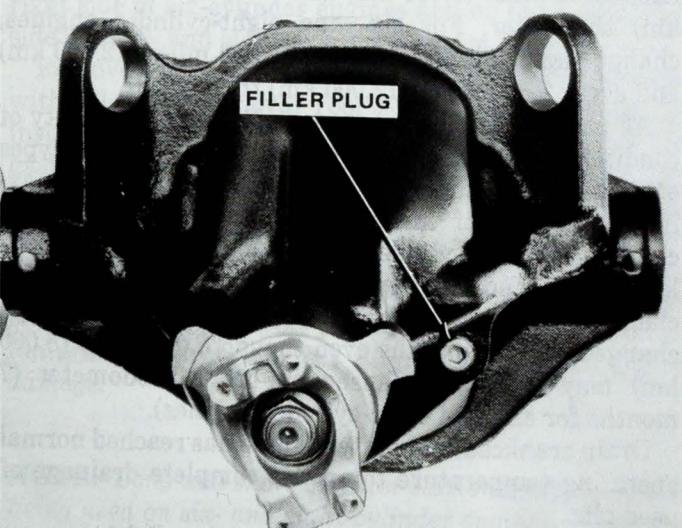
Change the rear axle fluid at 30,000-mile (48,000 km) intervals. To drain the fluid, remove the rear axle housing cover. Use a new gasket when installing the housing cover.

Fill to level of fill plug (fig. B-10) with AMC Rear Axle Lubricant or SAE 80W-90 Gear Lubricant of API GL-5 quality, or equivalent. For Twin-Grip rear axle, use AMC Rear Axle lubricant or SAE 80W-90 Limited Slip Gear Lubricant of API GL-5 quality, or equivalent.



7-9/16 Inch Rear Axle

70329



8-7/8 Inch Rear Axle

Fig. B-10 Rear Axle Filler Plugs

41020

EMISSION CONTROL INSPECTION

Four-Cylinder Engine

After the first 5,000 miles (8,000 km) of operation, retorque cylinder head bolts and adjust engine valves. Refer to Chapter 1B—Engines, Volume One—Power Plant for procedures. Also do the following.

Drive Belts

Check belts driving fan, air pump, alternator, power steering pump, and air conditioning compressor for cracks, fraying, wear, and general condition. Use Tension Gauge J-23600 to check drive belt tension. Compare reading obtained against the tension specified for used belts in the following chart. If installing a new belt, use the new belt setting shown in the chart. Refer to Chapter 1C—Cooling, Volume One—Power Plant for replacement or adjustment procedures.

Drive Belts Tension

	Initial Newtons New Belt	Reset Newtons Used Belt	Initial Pounds New Belt	Reset Pounds Used Belt
Air Conditioner				
Four-Cylinder	556-689	400-512	125-155	90-115
Six-Cylinder	556-689	400-512	125-155	90-115
Eight-Cylinder	556-689	400-512	125-155	90-115
Air Pump				
Four-Cylinder	178-267	118-267	40-60	40-60
Six-Cylinder w/PS	289-334	267-311	65-75	60-70
Other Six-Cylinder and all Eight- Cylinder				
Fan — All Engines	556-689	400-512	125-155	90-115
Power Steering — All Engines	556-689	400-512	125-155	90-115

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Engine Idle Speeds

Check curb idle speed and mixture and fast idle speed using equipment known to be accurate. For curb idle speed and mixture, refer to Tune-Up Specifications (On Car) chart in Chapter 1A—General Service and Diagnosis, Volume One—Power Plant. For fast idle speed, refer to Carburetor Service Specifications chart in Chapter 1J—Fuel Systems, Volume One—Power Plant.

Six- and Eight-Cylinder Engines

After the first 5,000 miles (8,000 km) of operation, perform a Drive Belts inspection and check Engine Idle Speeds and adjust if necessary, as described above.

ENGINE DRIVE BELT INSPECTION

On models with four-cylinder engines, check condition and tension of engine drive belts every 5,000 miles (8,000 km) as described above under Drive Belts.

ENGINE MAINTENANCE**Four-Cylinder Engine**

Retorque cylinder head bolts, adjust engine valves and inspect engine Drive Belts as described above under Emission Control Inspection. Also perform the following services.

Fuel Filter

Replace the fuel filter at the carburetor. Be sure to position the fuel return line at the top of the filter (fig. B-11).

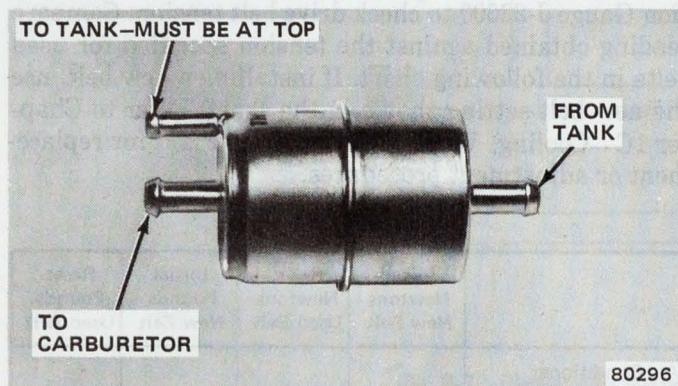


Fig. B-11 Correct Fuel Filter Installation

Ignition System

Replace ignition points and condenser, then check and adjust ignition timing if necessary. Refer to Chapter 1A—General Service and Diagnosis, Volume One—Power Plant, for service procedures and specifications.

Six- and Eight-Cylinder Engines

On all models, perform a Drive Belts inspection as described above and also replace the fuel filter at the carburetor. Be sure to position fuel return line at the top of the filter (fig. B-11).

On Pacer, Concord and AMX models with eight-cylinder engines, perform an engine Drive Belts inspection and replace the Fuel Filter as described above, and also do the following.

Choke Linkage

Open the carburetor to part throttle position and move the choke valve by hand from fully close to fully open. The choke mechanism should move freely. Correct as required.

Vacuum Connections

Inspect vacuum fittings, exhaust gas recirculation lines, hoses and connections for integrity and correct assembly. Replace or repair as required.

Idle Speeds

Check carburetor idle mixture and adjust if necessary. Also check curb idle and high idle speeds, adjust if required. Refer to Chapter 1A—General Service and Diagnosis, Volume One—Power Plant for procedures and specifications.

Ignition Timing

Check ignition timing and adjust if necessary as described in Chapter 1A—General Service and Diagnosis, Volume One—Power Plant.

ENGINE TUNE-UP

Perform a complete precision tune-up at the scheduled interval. Perform a precision electronic diagnosis whenever questionable engine performance occurs between scheduled tune-ups.

Refer to Chart 4 of the 1978 Four-Cylinder or Six- and Eight-Cylinder Maintenance Schedules for a complete listing of items requiring attention during the tune-up. Refer to Chapter 1A—General Service and Diagnosis, Volume One—Power Plant for detailed procedures and specifications. Procedures for air cleaner servicing and fuel filter replacement are located in Chapter 1J—Fuel Systems, Volume One—Power Plant.

OIL CHANGE SERVICE

The Oil Change Service is a complete service including oil and filter change, fluid level checks and other important maintenance items. Read the details and perform the services as follows.

Engine Oil Change

On four-cylinder engines, change engine oil after the first 5,000 miles (8,000 km) and every 5,000 miles (8,000 km) thereafter. For six- and eight-cylinder engines, change engine oil after the first 7,500 miles (12,000 km) and every 7,500 miles (12,000 km) thereafter.

As periods for oil changes are affected by a variety of conditions, no single mileage figure applies for all types of driving. Five-thousand miles (8,000 km) is the maximum amount of miles that should elapse between changes for four-cylinder engines (7,500 miles or 12,000 km for six- and eight-cylinder engines); more frequent changes are beneficial, and for this reason, oil should be changed every 5 months even though 5,000 miles (8,000 km) may not have elapsed on the car odometer (7 months for six- and eight-cylinder engines).

Drain crankcase only after engine has reached normal operating temperature to ensure complete drainage of used oil.

For maximum engine protection under all driving conditions, fill crankcase only with engine oil meeting API Engine Oil Service Classification "SE." These letters

must appear on the oil container singly or in combination with other letters. SE engine oils protect against oil oxidation, high-temperature engine deposits, rust and corrosion.

Single viscosity or multi-viscosity oils are equally acceptable. Oil viscosity number, however, should be determined by the lowest anticipated temperature before the next oil change.

Engine Oil Viscosity

Lowest Temperature Anticipated	Recommended Single Viscosity	Recommended Multi-Viscosity
Above +40° F +5° C	SAE 30 or SAE 40	SAE 10W-30, 20W-40, or 10W-40
Above 0° F -18° C	SAE 20W-20	SAE 10W-30 or 10W-40
Below 0° F -18° C	SAE 10W*	SAE 5W-20 or 5W-30

*Sustained high speeds (above 55 mph) should be avoided when using SAE 10W engine oil since oil consumption may be greater under this condition.

70210

Crankcase capacity is 3.5 quarts (3.4 l) for four-cylinder engines, and 4 quarts (3.8 l) for six- and eight-cylinder engines. Add an additional 0.5 quart (0.5 l) when the filter is changed on four-cylinder engines, 1 full quart (0.96 l) for six- and eight-cylinder engines.

Oil Filter Change

Change the oil filter every 5,000 miles (8,000 km) or every 5 months, whichever comes first, with four-cylinder engines, every 7,500 miles (12,000 km) or every 7 months whichever comes first for six- and eight-cylinder engines.

A full-flow oil filter is mounted on the lower center right side of six-cylinder engines and on the lower right side on four- and eight-cylinder engines.

Remove the throwaway filter unit from the adapter with Oil Filter Removal Tool J-22700, or equivalent. To install, turn the replacement unit by hand until the gasket contacts the seat and then tighten an additional one-half turn.

CAUTION: Four-cylinder oil filters have a built-in bypass valve to permit oil flow if the filter should clog. Failure to use the correct filter can result in engine damage.

NOTE: Long and short oil filter elements are currently being used on six- and eight-cylinder engines. When the short element is used, a slight overfill condition is indicated on the dipstick on some engines. This does not affect engine operation.

Fluid Level Checks—All Models

Battery

Check electrolyte level every 15,000 miles (24,000 km) under normal operation, or every 10,000 miles (16,000 km) when operated in hot climates, and always before every winter season. Lift the battery cell caps and check the fluid level in each filler well. Add distilled water, if necessary, to bring level to bottom of ring in filler wells (fig. B-1).

Engine Coolant

Check coolant level when the engine is cold. Fluid level should be approximately 1-1/2 to 2 inches (38.1 to 50.8 mm) below the filler neck when cold, or 1/2 to 1 inch (12.7 to 25.4 mm) when hot. Add a 50/50 mixture of ethylene glycol antifreeze and pure water. In an emergency, water alone may be used. Check the freeze protection at the earliest opportunity, as the addition of water will reduce the antifreeze and corrosion protection of the coolant mixture. Do not overfill, as loss of coolant—due to expansion—will result.

Brake Master Cylinder

Fluid level in the brake master cylinder should be just below the reservoir top rim (fig. B-12). Use AMC Brake Fluid, or equivalent, conforming to SAE Standard J1703 and FMVSS No. 116, DOT 3 Brake Fluid.

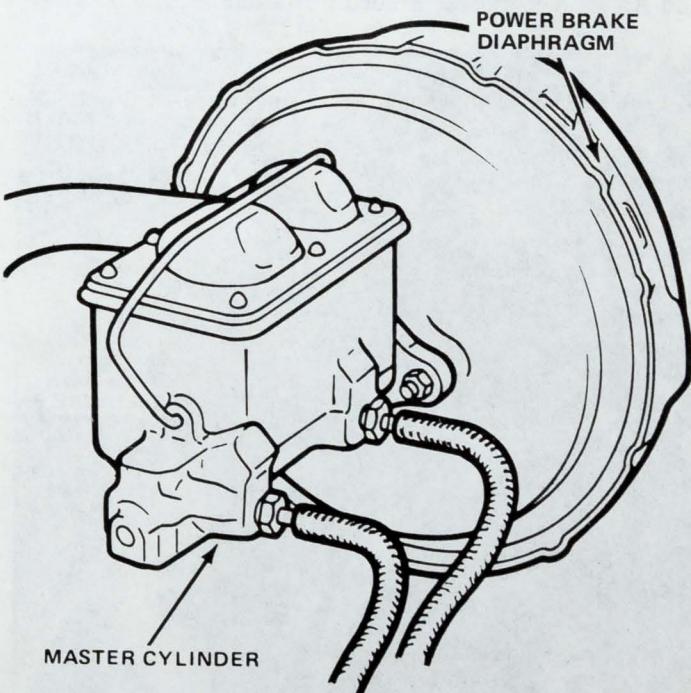


Fig. B-12 Brake Master Cylinder

Manual Steering Gear

Check manual steering gear fluid level at the first oil change service, then at 30,000 miles (48,000 km) and every 30,000 miles (48,000 km) thereafter. Remove the side cover bolt opposite the adjuster screw (fig. B-13). Lubricant should be to level of bolt hole. If not, add make-up fluid such as AM All-Purpose Lubricant or Multi-Purpose Chassis Lubricant (Lithium Base).

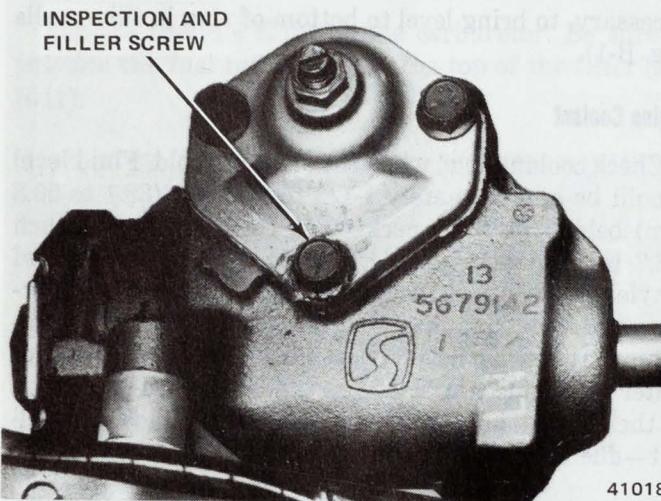


Fig. B-13 Manual Steering Gear Fill Hole Location

Power Steering Pump

Lubricant level can be checked with fluid either hot or cold. If below the FULL HOT or FULL COLD marking on the dipstick attached to the reservoir cap (fig. B-14), add AMC/Jeep Power Steering Fluid or equivalent.

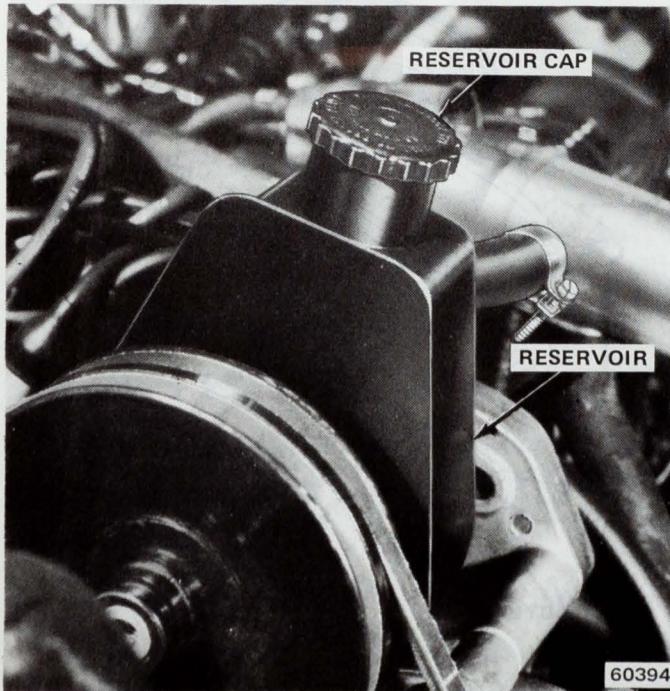


Fig. B-14 Power Steering Pump Dipstick Location

Automatic Transmission

To make an accurate fluid level check perform the following steps:

- (1) Bring transmission up to normal operating temperature.
- (2) Place car on level surface.
- (3) Have engine running at idle speed at normal operating temperature.
- (4) Apply parking brake.
- (5) Move gearshift lever through all gears, leaving it in Neutral.
- (6) Remove dipstick, located in fill tube at right rear of engine near dash panel, and wipe clean.
- (7) Insert dipstick until cap seats.
- (8) Remove dipstick and note reading. The fluid level should be between the ADD and FULL marks. If at or below the ADD mark, add sufficient fluid to raise level to FULL mark.

Use AMC Automatic Transmission Fluid, Dexron®, Dexron II®, or equivalent.

CAUTION: Do not overfill. Overfilling can cause foaming which can lead to overheating, fluid oxidation, or varnish formation. These conditions can cause interference with normal valve, clutch, and servo operation. Foaming can also cause fluid to escape from the transmission vent where it may be mistaken for a leak.

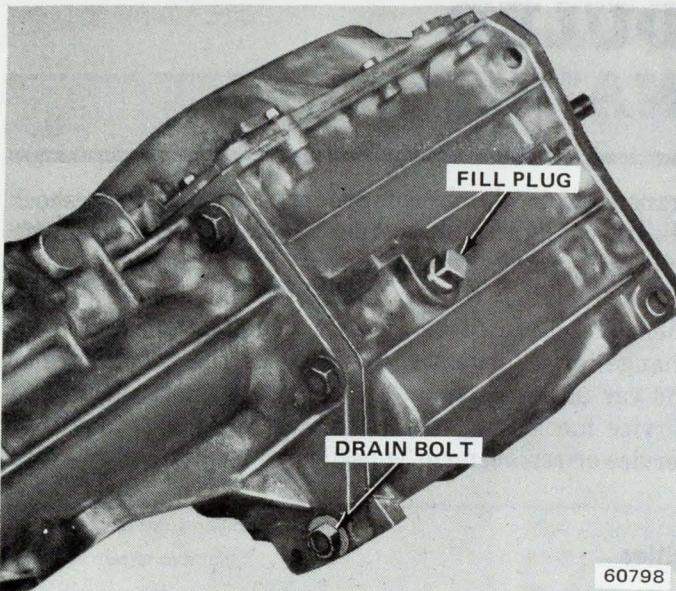
When checking fluid level, also check fluid condition. If fluid smells burned or is full of metal or friction material particles, a complete transmission overhaul may be needed. Examine the fluid closely. If doubtful about its condition, drain out a sample for a doublecheck.

Manual Transmission

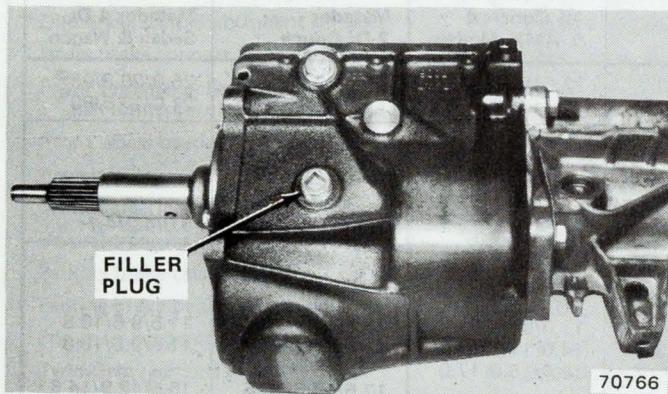
To check lubricant level, remove the fill plug located on the right side of transmission (fig. B-15). Lubricant should be level with fill plug hole. If not, raise level with lubricant and install fill plug. Refer to Recommended Fluids and Lubricants chart and Fluid Capacities chart at the end of this section.

Rear Axle Differential

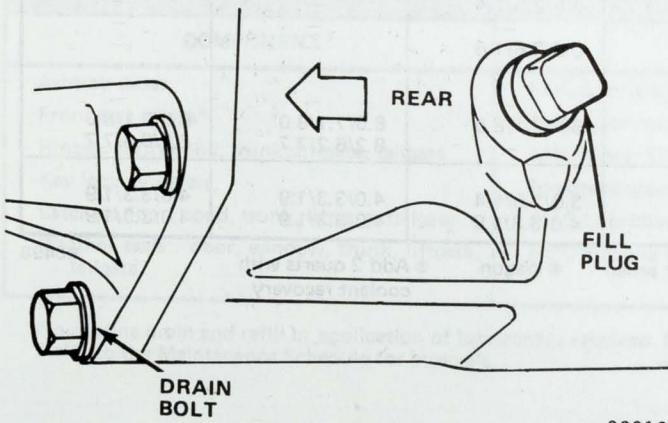
The lubricant level should be at the level of the fill hole (fig. B-10). If not, bring to level by adding the recommended lubricant.



SR4—4-Speed with six-cylinder engine



HR-1—4-Speed with four-cylinder engine



150T—3-Speed

Fig. B-15 Manual Transmission Filler Plugs

Windshield Washer Solution

The use of washer solvent mixed with water is recommended year-round. In addition to the ice inhibitor, it contains detergent effective in removing road film. Do not use engine antifreeze or other solutions that can damage the paint.

Windshield and Wiper Blade Elements

Dry windshield glass accumulates road film which will result in hazing and/or smearing when the wipers are first turned on. This film is not readily washed with water. For this reason, it is important that both the glass as well as the wiper blade rubber element is washed with mild detergent solution regularly.

Compact Spare Tire Pressure

On models equipped with a compact spare tire, check tire pressure at every Oil Change Service. Tire pressure should be 60 psi (413 kPa) when cold. Be sure to use a pressure gauge large enough to indicate 60 psi (413 kPa).

WARNING: Do not confuse the compact spare tire with the collapsible spare tire. The compact spare tire is stored inflated. The collapsible spare is deflated when stored and requires use of a special inflator can.

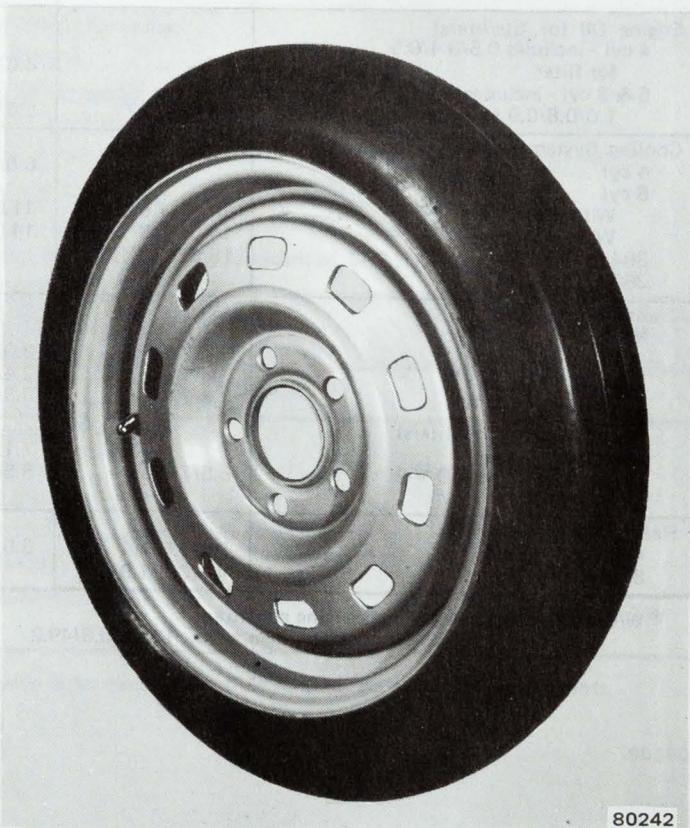


Fig. B-16 Compact Spare Tire

WARNING: Add air only in small amounts and check tire pressure frequently until 60 psi (413 kPa) is reached. Tire pressure rises quickly with only a small amount of air added.

UNSCHEDULED MAINTENANCE

GENERAL

Services detailed in this subsection are not listed in the Maintenance Schedule for performance at a specified interval. They are to be performed as required to restore car to original specifications. Unscheduled maintenance services include such items as fuel system cleaning, engine carbon deposit removal, retightening loose parts and connections, replacement of manual

transmission clutch components, brakelinings, shock absorbers, light bulbs, wiper blades, belts, hoses, soft trim, bright metal trim, painted parts, other appearance items plus other rubber and rubber-like parts. Need for these unscheduled services is usually indicated by a change in performance, handling, or the appearance of the car or a particular component. Owners, users and service mechanics should be alert for indications that service or replacement is needed.

Fluid Capacities

REFILL CAPACITIES — APPROXIMATE (U.S. Measure/Imperial Measure/SI Metric Measure)

Item	Pacer & Pacer Wagon	Gremlin	All Concord & AMX Models	Matador 2-Dr Coupe	Matador 4-Dr Sedan & Wagon
Fuel Tank (gal/gal/liters)	20.0/16.6/76	21.0/17.5/80 ^① 15.0/12.5/57 ^②	22.0/18.3/83	25.0/20.8/95	25.0/20.8/95 ^③ 21.0/17.5/80 ^④
Engine Oil (qt./qts/liters) 4 cyl - includes 0.5/0.4/0.5 for filter 6 & 8 cyl - includes 1.0/0.8/0.9 for filter	— 5.0/4.2/4.7	4.0/3.4/3.8 5.0/4.2/4.7	— 5.0/4.2/4.7	— 5.0/4.2/4.7	— 5.0/4.2/4.7
Cooling Systems (qts/qts/liters) 4 cyl 6 cyl Without AC With AC 304 CID V-8 All 360 CID V-8 All	— 14.0/11.6/13.2 14.0/11.6/13.2 18.0/15.0/17.0 —	6.5/5.5/6.1 11.0/9.2/10.3 14.0/11.6/13.2 — —	— 11.0/9.2/10.3 14.0/11.7/13.2 18.0/15.0/17.0 —	— 13.5/11.2/12.7 13.5/11.2/12.7 — 17.5/14.6/16.5	— 11.5/9.6/10.8 11.5/9.6/10.8 — 15.5/12.9/14.6 ^⑤
Transmissions Manual (pts/pts/liters) 3 speed 4 speed (w/4 cyl) 4 speed (w/6 cyl) Automatic (qts/qts/liters) 4 cyl 6 cyl and 304 CID V-8 360 CID V-8	3.0/2.5/1.4 — 3.3/2.8/1.6 8.5/7.1/8.0 —	3.0/2.5/1.4 2.4/2.0/1.1 3.3/2.8/1.6 7.1/6.0/6.7 8.5/7.1/8.0	3.0/2.5/1.4 — 3.3/2.8/1.6 8.5/7.1/8.0 —	— — — — 8.5/7.1/8.0 8.2/6.2/7.7	— — — — 8.5/7.1/8.0 8.2/6.9/7.7
Rear Axle (pts/pts/liters) 4 & 6 cyl 8 cyl	3.0/2.5/1.4 4.0/3.3/1.9	3.0/2.5/1.4 —	3.0/2.5/1.4 4.0/3.3/1.9	4.0/3.3/1.9 4.0/3.3/1.9	4.0/3.3/1.9 4.0/3.3/1.9

① W/6 cyl engine

② W/4-cyl. engine auto.trans.

W/4-cyl. engine man.trans., 13.0/10.8/49.2

③ 4-Dr sedan

④ Wagon

⑤ Add 2 quarts with

coolant recovery

80498

Recommended Fluids and Lubricants**POWER PLANT**

COMPONENT	SPECIFICATION
Distributor cam lobes (4 cyl. only)	Molydisulfide grease.
Distributor rotor tip (6 and 8 cyl. only)*	AMC Silicone Dielectric Compound or equivalent.
Engine coolant	High quality ethylene glycol (permanent antifreeze) and clean water in 50/50 mixture.
Engine oil	API classification "SE." Refer to oil viscosity chart for correct SAE grade.
Exhaust manifold heat valve	AMC Heat Valve Lubricant or equivalent.

CHASSIS

COMPONENT	SPECIFICATION
Automatic transmission	AMC Automatic Transmission Fluid or equivalent labeled Dexron® or Dexron II®.
Brake master cylinder*	AMC Brake Fluid or equivalent marked FMVSS No. 116, DOT-3 and SAE J-1703. CAUTION: Use only recommended brake fluids.
Clutch lever and linkage	Multi-Purpose chassis lubricant.
Conventional rear axle	AMC Rear Axle Lubricant or gear lubricant of SAE 80W-90 (API-GL5) quality.
Disc brake caliper abutment surfaces	AMC Brake Support Plate Lubricant or equivalent molydisulfide lubricant.
Drum brake support plate ledges*	AMC Brake Support Plate Lubricant or equivalent molydisulfide lubricant.
Front suspension ball joints, tie rod inner ball joints, turning stop plate and bracket	AMC All-Purpose Lubricant or equivalent lithium base chassis lubricant.
Front wheel bearings	Wheel Bearing Lubricant EP lithium base.
Gearshift linkage*	Multi-Purpose chassis lubricant.
Manual steering gear*	AMC All-Purpose Lubricant or equivalent lithium base chassis lubricant.
Manual transmission*	SAE 80W-90 gear lubricant (API-GL5).
Parking brake cables*	Multi-Purpose chassis lubricant.
Parking brake pedal mechanism	AMC Lubriplate or equivalent.
Power steering pump and gear*	AMC Power Steering Fluid or equivalent.
Twin Grip rear axle	AMC Rear Axle Lubricant or limited slip gear lubricant of SAE 80W-90 (API-GL5) quality.

BODY

COMPONENT	SPECIFICATION
Ashtray slides	AMC Lubriplate or equivalent.
Front seat tracks*	AMC Lubriplate or equivalent.
Hinges: door, hood, trunk, liftgate, tailgate	AMC Motor Oil or equivalent.
Key lock cylinders	Powdered graphite, AMC Silicone Lubricant Spray or light oil.
Latches: door, hood, trunk, liftgate, tailgate	AMC Lubriplate or equivalent.
Weather seals: door, window, trunk, liftgate, tailgate	AMC Silicone Lubricant Spray or equivalent.

*No routine drain and refill or application of lubricant is required. Specification is for maintaining fluid levels or reassembling components. Refer to the Maintenance Schedule for intervals.

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INSTRUMENT PANELS AND COMPONENTS

Instrument panels and components for fleet cars are the same as those for standard production models.

HEATER

The fleet heater is the same as those used in standard production models. Refer to Chapter 4D for general operating instructions and service procedures for all models.

The heater and defroster switch is located under the rear shelf and out of the way. It is connected to the main power source at the center of the car body and is controlled by a switch on the dash. Power is supplied from the 35-amp alternator to the heater panel. The switch is located on the left side of the steering column. Refer to Chapter 4D for other components.

FLEET EQUIPMENT



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GENERAL

This chapter describes the optional body equipment available on fleet cars. The chapter is divided into sections titled to correspond with the main chapters in this volume. Each section contains the latest information available at the time of publication.

Unless outlined in this chapter, service procedures for fleet equipment are the same as for corresponding regular production AMC cars.

WATER LEAK/WIND NOISE DIAGNOSIS AND REPAIR

Service procedures for fleet water leak/wind noise diagnosis and repair are the same as those for standard production models.

METAL REPAIR AND PAINTING

Refer to Chapter 3B for service procedures on metal repair and painting.

INSTRUMENT PANELS AND COMPONENTS

Instrument panels and components for fleet cars are the same as those for standard production models.

HEATER

The fleet heater is the same as those used on standard production models. Refer to Chapter 3D for general operating instructions and service procedures for all models.

AIR CONDITIONING

The air conditioning system for all fleet cars is the same as that used on standard production cars. Refer to Chapter 3E for general operating instructions and service procedures for all models.

BODY COMPONENTS

Service procedures for this chapter remain the same as those outlined in Chapter 3F with the exception of a roof brace for light mounting located between the headliner and outer roof panel which is on special fleet cars only.

HOODS

Service procedures for hoods remain the same as those outlined in Chapter 3G.

LIFTGATES—TAILGATES—DECK COVERS

An electric trunk release is available on Matador 4-door models. The wiring for the electric release follows the main wire harness down the left side of the car to the trunk. It is routed under the rear shelf and out at approximately the centerline of the car where it enters the deck cover and is routed to the latch. Power is supplied to the switch from the 20-amp accessory fuse in the fuse panel. The switch is located on the instrument panel to the left of the steering column.

Refer to Chapter 3H for service procedures for all other components.

DOORS

Fleet cars may have all keys and lock cylinders coded alike. Service procedures for all door components remain the same as outlined in Chapter 3J.

REAR QUARTER

Refer to Chapter 3K for service procedures for all models.

LUGGAGE RACKS—REAR CARGO COVER

The luggage racks and rear cargo covers for fleet cars are the same as those for standard production models.

SEAT ASSEMBLIES

Service procedures for fleet heavy-duty seat cushions, backs, and upholstery are the same as standard production cars. Refer to Chapter 3M for general information and service procedures for all models.

WINDSHIELD—REAR WINDOW

Refer to Chapter 3N for service procedures for all models.

HEADLINING—VINYL ROOF—EXTERIOR DECALS AND OVERLAYS

Service procedures for fleet headlining, vinyl roof, and exterior decals remain as detailed in Chapter 3P.

LIGHTING SYSTEMS

Matador Sedans and Station Wagons may be ordered with roof wiring. The roof wiring includes one 12 gauge wire which runs from the right side of the instrument panel, up the A-pillar, and is taped to the roof six inches behind the forward edge of the windshield. To gain access to the wire, cut a hole in the roof at the proper location (fig. C-1) and draw the wire through the hole.

Refer to Chapter 3R for service procedures for all other lighting system components.

COILED SHIELDED WIRES TAPED
TO ROOF ON CENTERLINE
APPROXIMATELY 6 INCHES FROM
FORWARD EDGE AS SHOWN

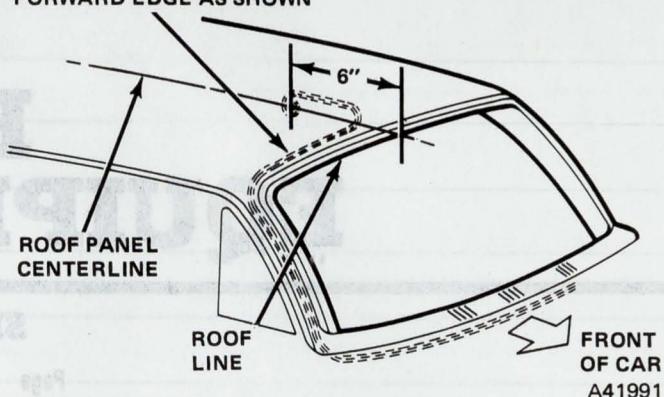


Fig. C-1 Roof Wire Installation

HORN SYSTEMS

The horn systems for fleet cars are the same as those for standard production models.

WINDSHIELD WIPERS

Service procedures for fleet windshield wipers remain as detailed in Chapter 3T.

REAR WINDOW DEFOGGERS

Refer to Chapter 3U for service procedures for all models.

RADIO SOUND SYSTEMS

Radio sound systems and service procedures for all fleet cars remain as outlined in Chapter 3V.

A radio suppression kit is available on all fleet cars. It consists of resistor spark plugs, resistor-type distributor, and a capacitor attached to the ignition coil positive terminal. On Pacer, Gremlin and Concord models, a second capacitor is attached to the accessory wire at the fuse panel.

WATER LEAK/ WIND NOISE DIAGNOSIS AND REPAIR

3A

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WATER LEAKS

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GENERAL

The problem of water leaks is closely related to dust leakage due to the fact that, under certain conditions, water can enter the car body at any point where dirt and dust can enter.

The key to correcting any water leak problem is complete and accurate diagnosis. To do this a thorough check of all five general causes of leakage must be accomplished:

- Maladjusted components
- Improperly installed, misrouted or faulty weatherstrips
- Omission of sealers
- Misfitted panels
- Missing body plugs

Leaks can be deceiving. The point where water is detected may not be the point where it entered the car.

Spray Test

The first thing to do on any water leak problem is pinpoint the leak. The best way to do this is to perform a water spray test.

Sit inside the car and have someone spray water over the suspected leak area. **Always start spraying along the bottom. By starting at the bottom, the exact level at which the leaks occur will be determined.** If water was sprayed at the highest point, water would be at all suspect areas and it would be difficult to determine the exact problem area.

Do not rush the water spray test. The water may have to flow awhile before it shows up. Try to simulate as much as possible the effect of wind-driven water.

Ultrasonic Test

Another way to test the car for water leaks is use the Listener Tool J-23455-01. This tool makes use of the fact that ultrasonic energy (high frequency sound) has certain properties that are similar to those of fluids (liquids and gases). Ultrasonic energy does not penetrate solids, such as glass or metal. It is, however, transmitted through cracks and openings, such as those that cause body, water, or air leaks.

An operating ultrasonic generator placed inside an automobile body will fill the car with sound energy. This energy will **leak** at the same locations that permit water and air leaks. However, if an opening or hole is full of water, the ultrasonic sound will be blocked. The water path or opening must be dry.

An ultrasonic generator and detector gun form an ideal combination for determining the location and magnitude of water and air leaks. The ultrasonic leak detector can be used effectively as a diagnostic tool realizing it is not an exact tool and has certain limitations.

Light Test

Another method of finding water leaks is the light test. This method is good for finding sealer skips in the sheet metal joints and seams, particularly in the wheelhouse area. Sit inside the car or trunk and have someone

pass a bright light along the seams and joints from under the vehicle.

Water/Rust Streaks

Another thing to look for in diagnosing water leaks is a pattern of rust or water streaks on interior sheet metal and trim. For instance, a symptom of rear window leakage or inadequately sealed coach joint is water dripping into the rear compartment or trunk. This will show up as water or rust streaks on the rear compartment trim or wheelhouse.

Adhesive, Sealant and Coating Materials

- Adhesives join or bond materials together
- Sealants close gaps or seams between sheet metal or materials and prevent the passage of water, dust, air, etc.
- Coatings protect against corrosion and abrasion, and dampen sound or vibration—they may also be used to seal out water and dust

Bonding Surface Preparation

For the various materials to adhere and form an effective bond, it is essential that they are applied to clean, dry surfaces. After a water test, this condition can best be achieved by blowing the joint or seam dry with a high pressure jet of clean dry air and then wiping the joint, or seam, with a cloth damped in 3M General Purpose Adhesive Cleaner, or equivalent.

WATER ON FRONT CARPET

Windshield

Leaks can occur between the urethane sealer and windshield glass or urethane sealer and body pinchweld flange. Leaks between the urethane sealer and glass will be indicated by water which is visible on the inside of the glass or on the front carpet. Leaks between the urethane sealer and body pinchweld flange will track down to appear on the front carpet. Also, water can enter at the weld studs or burn holes in the body pinchweld flange.

Spray Diagnosis and Repair

- (1) Remove windshield reveal mouldings, as described in Chapter 3N.
- (2) Perform the following spray test using guidelines described under Spray Test above.
 - (a) Starting at base of windshield A-pillar on one side of car, spray water onto glass across the bottom between the dash panel assembly and glass.
 - (b) Test vertical section of A-pillar and across top of glass.
 - (c) Repeat steps (a) and (b) for other side of car.

- (3) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.
- (4) Seal windshield as described in detail in Chapter 3N.
- (5) Repeat spray test to ensure that an effective repair has been made.
- (6) Install windshield reveal mouldings.

Ultrasonic Diagnosis and Repair

- (1) Make sure the suspect areas are thoroughly dry, if an opening or hole is full of water, the ultrasonic sound will be blocked.
- (2) Remove windshield reveal mouldings, as described in Chapter 3N.
- (3) Using Listener Tool J-23455-01, perform Ultrasonic Test described above as follows:
 - (a) Place transmitter in car adjacent to windshield and turn switch on.
 - (b) Close all doors, windows and air vents.
 - (c) Slowly pass listener all around windshield opening.
 - (d) Mark any area reading approximately 5 on the meter as a indication of a possible leak.
- (4) Clean suspect area as described above under Bonding Surface Preparation.
- (5) Seal windshield as described in detail in Chapter 3N.
- (6) Repeat ultrasonic test to ensure that an effective repair has been made.
- (7) Install windshield reveal mouldings.

Dash Panel Assembly

Water leaks can occur at the inside of dash panel assembly due to spot weld burn holes or excessive gaps and/or lack of sealer at the dash panel joints. Water leaks from these burn holes or joints will result in water puddles forming on the front carpet or floor pan. Water can also enter through the many holes stamped into the dash panel assembly due to, loose grommets and/or incorrectly installed components and attaching hardware. Water will appear on the front carpet or floor pan having tracked down the inside of the dash panel assembly.

Spray Diagnosis and Repair

- (1) Pull back carpet and sound insulation material.
- (2) Open hood.
- (3) Perform the following spray test using guidelines described under Spray Test above.
 - (a) Starting at bottom of dash panel on one side of car spray water onto suspect joints, grommets and components.
 - (b) Spray water across top of dash panel.
 - (c) Repeat spray test on other side of car.
- (4) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.

(5) Straighten any distorted flanges.

(6) Seal suspect spot weld burn holes and dash panel joints using 3M All-Around Autobody Sealant, or equivalent.

NOTE: Exercise care so as not to direct sealer into air ducts.

(7) Seal interior plenum chamber leaks by attaching a length of flexible plastic hose to nozzle of applicator gun specified for use with 3M Joint and Seam Sealer, or equivalent.

(8) Check that all suspect grommets are correctly installed. If necessary, add above sealant to ensure a water tight seal.

(9) Ensure that all suspect components and attaching hardware are properly installed. If necessary, add above sealant to ensure a water tight seal.

(10) Repeat spray test to ensure that an effective repair has been made.

(11) Properly position sound insulation material and carpet.

(12) Close hood.

Ultrasonic Diagnosis and Repair

(1) Make sure the suspect areas are thoroughly dry. If an opening or hole is full of water, the ultrasonic sound will be blocked.

(2) Pull back carpet and sound insulation material.

(3) Open hood.

(4) Close all windows, doors and air vents.

(5) Using Listener Tool J-23455-01, perform ultrasonic test as follows:

(a) Place transmitter in car adjacent to dash panel assembly and turn switch on.

(b) Slowly pass listener over each joint, grommet and component.

(c) Mark any area reading approximately 5, on the meter, as a indication of a possible leak.

(6) Clean suspect area as described above under Bonding Surface Preparation.

(7) Straighten any distorted flanges or seams.

(8) Seal suspect spot weld burn holes and dash panel joints using 3M All-Around Autobody Sealant, or equivalent.

NOTE: Exercise care so as not to direct sealer into air ducts.

(9) Seal interior plenum chamber leaks by attaching a length of flexible plastic hose to nozzle of applicator gun specified for use with 3M Joint and Seam Sealer, or equivalent.

(10) Check that all suspect grommets are correctly installed. If necessary, add above sealant to ensure a water tight seal.

(11) Ensure that all suspect components and attaching hardware are properly installed. If necessary, add above sealant to ensure a water tight seal.

(12) Repeat ultrasonic test to ensure that an effective repair has been made.

(13) Properly position sound insulation material and carpet.

(14) Close hood.

Front Floorpan, Side Sills, Cowl Side Panels or Front Hinge Pillars

Water can enter at dash panel assembly-to-front floorpan seams due to gaps, distorted panels and/or lack of sealer. Water appears under front carpet.

Leaks can occur between the side sills, front floorpan, cowl side panels or front hinge pillars due to excessive gaps and/or lack of sealer at the panel joints. Water leaks from these joints will result in a wet front carpet or sound insulation material.

Also, leaking floorpan plugs will allow water to enter under the carpet and sound insulation material.

Spray Diagnosis and Repair

(1) Remove front seat(s).

(2) Remove front carpet and sound insulation material.

(3) Open hood.

(4) Perform the following spray test using guidelines described under Spray Test above.

(a) Spray water from under front fender at joint of floorpan and cowl side panel or front hinge pillar.

(b) Next spray across floorpan-to-dash panel seam and towards rear of car at floorpan plugs.

(c) Move spray slowly upwards until water is directed at joint of dash panel-to-cowl side panel.

(d) If necessary, repeat spray test on other side of car.

(5) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.

(6) Straighten any distorted panels.

(7) Seal suspect joints or seams using 3M All-Around Autobody Sealant, or equivalent.

(8) Examine suspect area for loose or missing body plugs.

(a) Check that hardened sealer or road dirt is not preventing the plug from seating.

(b) Check hole to be sure that it is not distorted.

(c) If necessary, reshape floorpan at plug hole and add a bead of the above sealant around hole to ensure a satisfactory water tight seal.

(9) Repeat spray test to ensure that an effective repair has been made.

(10) Close hood.

(11) Install sound insulation material and front carpet.

(12) Install front seat(s).

Ultrasonic Diagnosis and Repair

- (1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.
- (2) Remove front seat(s).
- (3) Remove front carpet and sound insulation material.
- (4) Close all windows, doors and air vents.
- (5) Using Listener Tool J-23455-01, perform ultrasonic test as follows:
 - (a) Place transmitter in car adjacent to suspect area and turn switch on.
 - (b) Slowly pass listener over each joint, plug and seam.
 - (c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.
- (6) Clean suspect area as described above under Bonding Surface Preparation.
- (7) Straighten any distorted panels.
- (8) Seal suspect joints or seams using 3M All-Around Autobody Sealant, or equivalent.
- (9) Examine suspect area for loose or missing body plugs.
 - (a) Check that hardened sealer or road dirt is not preventing plug from seating.
 - (b) Check hole to be sure that it is not distorted.
 - (c) If necessary, reshape floorpan at plug hole and add a bead of sealant around hole to ensure a satisfactory water tight seal.
- (10) Repeat ultrasonic test to ensure that an effective repair has been made.
- (11) Install sound insulation material and front carpet.
- (12) Install front seat(s).

Front Doors and Glass

An improperly adjusted door or defective sealing system will allow water to leak onto the front carpet.

NOTE: Before starting door leak diagnosis, ensure that the door is correctly set within the body opening paying particular attention to the door flushness relative to surrounding surfaces. The mating surfaces of body opening and door rubber sealer must be wiped clean and dry. Also, ensure that the door glass is properly adjusted.

Spray Diagnosis and Repair

- (1) Perform the following spray test using guidelines described under Spray Test above.
 - (a) Start at front lower corner of suspect door, spray water between door lower edge to rocker panel.
 - (b) Move slowly up door to roof level.
 - (c) Move to door lower rear corner and spray water between door rear edge and adjacent panel.
 - (d) Move slowly up door to roof level.
 - (e) Finally, test door top edge to roof section.

- (2) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.
- (3) Examine rubber sealers for damage, distortion or incorrect location. Damaged or distorted rubber sealers should be replaced, as outlined in Chapter 3J.
- (4) Correct improperly installed rubber sealers as outlined in Chapter 3J.
- (5) Repeat spray test to ensure that an effective repair has been made.

Ultrasonic Diagnosis and Repair

- (1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.
- (2) Close all windows, doors and air vents.
- (3) Using Listener Tool J-23455-01, perform ultrasonic test as follows:
 - (a) Place transmitter in car near suspect door and turn switch on.
 - (b) Slowly pass listener around all door edges and sealers.
 - (c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.
- (4) Clean suspect area as described above under Bonding Surface Preparation.
- (5) Examine rubber sealers for damage, distortion or incorrect location. Damaged or distorted rubber sealers should be replaced as outlined in Chapter 3J.
- (6) Correct improperly installed rubber sealers as outlined in Chapter 3J.
- (7) Repeat ultrasonic test to ensure that an effective repair has been made.

WATER ON FRONT OR REAR SEATS

Front and Rear Doors and Glass

Improperly adjusted doors or defective sealing systems will allow water to leak onto the front or rear seats.

NOTE: Before starting door leak diagnosis, ensure that the door is correctly set within the body opening paying particular attention to the door flushness relative to surrounding surfaces. The mating surfaces of body opening and door rubber sealer must be wiped clean and dry. Also, ensure that the door glass is properly adjusted.

Spray Diagnosis and Repair.

Repeat Front Doors and Glass Spray Diagnosis and Repair procedures for both front and rear doors.

Ultrasonic Diagnosis and Repair

Repeat Front Doors and Glass Ultrasonic Diagnosis and Repair procedures for both front and rear doors.

Rear Quarter Windows

The stationary and opening rear quarter window seals can leak water that may appear on the rear seats.

NOTE: Before starting rear quarter window leak diagnosis, ensure that the rear quarter windows are properly adjusted.

Spray Diagnosis and Repair

- (1) Close and/or lock the opening windows.
- (2) Perform the following spray test using guidelines described under Spray Test above.
 - (a) Start spray test along lower edge.
 - (b) Spray water all around edges of window and opening.
 - (c) If necessary, repeat spray test on other side of car.
 - (3) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.
 - (4) In instances of leakage from stationary quarter window, apply 3M Windshield Sealer, or equivalent, between glass and sealer or sealer and body flange.
 - (5) On opening rear quarter windows, examine rubber sealers for damage, distortion or incorrect location. Damaged or distorted rubber sealers should be replaced.
 - (6) Correctly install rubber sealers as outlined in Chapter 3K.
 - (7) Also, ensure that flange is free from buckles or protrusions.
 - (8) Repeat spray test to ensure that an effective repair has been made.

Ultrasonic Diagnosis and Repair

- (1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.
- (2) Close all windows, doors and air vents.
- (3) Using Listener Tool J-23455-01, perform ultrasonic test as follows:
 - (a) Place transmitter in car adjacent to rear quarter window and turn switch on.
 - (b) Slowly pass listener around window opening.
 - (c) Mark any area reading approximately 5 on the meter as an indication of a possible leak.
 - (d) If necessary, repeat test on other side of car.
- (4) Clean suspect area as described above under Bonding Surface Preparation.
- (5) In instances of leakage from stationary quarter window, apply 3M Windshield Sealer, or equivalent, between glass and sealer or sealer and body flange.
- (6) On opening rear quarter windows, examine rubber sealers for damage, distortion or incorrect location. Damaged or distorted rubber sealers should be replaced.

(7) Correctly install rubber sealers as outlined in Chapter 3K.

(8) Also, ensure that flange is free from buckles or protrusions.

(9) Repeat ultrasonic test to ensure that an effective repair has been made.

WATER OFF HEADLINER

Luggage Racks, Targa Roof Bands and Vinyl Top Mouldings

Spray Diagnosis and Repair

- (1) Lower headliner in suspect area.
- (2) Perform the following spray test using guidelines described under Spray Test above.
 - (a) Spray water along luggage rack, skid strip mouldings, targa roof band or vinyl top mouldings.
 - (b) If necessary, repeat spray test on other side of car.
 - (3) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.
 - (4) Remove luggage rack support posts, in suspect area, and seal wellnuts to body using 3M Drip-Chek Sealer, or equivalent. Install support posts.
 - (5) Remove luggage rack skid strips, targa roof band or vinyl top mouldings, in suspect area, and ensure that all moulding clips and targa roof band is correctly installed.
 - (a) Replace improperly installed or defective moulding clips or targa roof band attaching hardware.
 - (b) If necessary, add above sealer to ensure a water tight seal.
 - (c) Install previously removed skid strips, vinyl top mouldings or targa roof bands.
 - (6) Repeat spray test to ensure that an effective repair has been made.
 - (7) Install headliner.

Ultrasonic Diagnosis and Repair

- (1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.
- (2) Remove headliner.
- (3) Close all windows, doors and air vents.
- (4) Using Listener Tool J-23455-01, perform ultrasonic test as follows:
 - (a) Place transmitter in car adjacent to suspect area and turn switch on.
 - (b) Slowly pass listener over each luggage rack support post, skid strip, targa roof bands or vinyl top moulding.
 - (c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.
- (5) Clean suspect area as described above under Bonding Surface Preparation.

(6) Remove luggage rack support posts, in suspect area, seal wellnuts to body using 3M Drip-Chek Sealer, or equivalent. Install support posts.

(7) Remove luggage rack skid strips, vinyl top mouldings or targa roof bands, in suspect area, and ensure that all moulding clips or targa roof band attaching hardware is correctly installed.

(a) Replace improperly installed or defective moulding clips or targa roof band attaching hardware.

(b) If necessary, add above sealer to ensure a water tight seal.

(c) Install previously removed skid strips, vinyl top mouldings or targa roof bands.

(8) Repeat ultrasonic test to ensure that an effective repair has been made.

(9) Install headliner.

Drip Rail

Spray Diagnosis and Repair

(1) Drop headliner in suspect area.

(2) Perform the following spray test using guidelines described under Spray Test above.

(a) Spray water along drip rail, starting at front of roof.

(b) If necessary, repeat spray test on other side of car.

(3) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.

(4) All models except Matador Coupe.

(a) Examine suspect area for small pin holes in drip rail sealer.

(b) Apply 3M All-Around Autobody Sealant, or equivalent, to drip rail and touch up with matching body color when sealant is dry.

(5) Matador Coupe.

(a) Remove weatherseal retainer and drip rail moulding from door opening or rear quarter window opening.

(b) Examine polyurethane foam sealer for damage, distortion or incorrect installation.

(c) Replace damaged, distorted or incorrectly installed foam sealer.

(d) Install drip rail mouldings and weatherseal retainers.

(6) Repeat spray test to ensure that an effective repair has been made.

(7) Install headliner.

Ultrasonic Diagnosis and Repair

(1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.

(2) Remove headliner.

(3) Close all windows, doors and air vents.

(4) Using Listener Tool J-23455-01, perform ultrasonic test as follows:

(a) Place transmitter in car adjacent to suspect area and turn switch on.

(b) Slowly pass listener over suspect area.

(c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.

(5) Clean suspect area as described above under Bonding Surface Preparation.

(6) All models except Matador Coupe.

(a) Examine drip rail for small pin holes in drip rail sealer.

(b) Apply 3M All-Around Autobody Sealant, or equivalent, to drip rail and touch up with matching body color when sealant is dry.

(7) Matador Coupe.

(a) Remove weatherseal or drip rail moulding from door opening or rear quarter window opening.

(b) Examine polyurethane foam sealer for damage, distortion or incorrect installation.

(c) Replace damaged, distorted or incorrectly installed foam sealer.

(d) Install drip rail mouldings and weatherseal retainers.

(e) Repeat ultrasonic test to ensure that an effective repair has been made.

(f) Install headliner.

WATER ON REAR CARPET

Rear Floor Pan, Side Sills and Rear Wheelhouse Panels

Water can enter at front floorpan-to-rear floorpan seams due to gaps, distorted panels and/or lack of sealer. Water appears under rear carpet.

Leaks can occur between the side sills or leading edge of rear wheelhouse panels due to excessive gaps and /or lack of sealer at the joints. Water leaks from these joints will result in a wet rear carpet or sound insulation material.

Also, leaking rear floorpan plugs will allow water to enter under the carpet and sound insulation material.

Spray Diagnosis and Repair

(1) Remove rear seat.

(2) Remove rear carpet and sound insulation material.

(3) Perform the following spray test using guidelines described under Spray Test above.

(a) Spray water from under car at joint of rear floorpan-to-side sill.

(b) Next spray across front floorpan-to-rear floorpan seam and towards rear of car at floorpan plugs.

(c) Move spray slowly along rear floorpan-to-rear wheelhouse panel seams.

(d) If necessary, repeat spray test on other side of car.

- (4) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.
- (5) Straighten out distorted panels.
- (6) Seal suspect joints or seams using 3M All-Around Autobody Sealant, or equivalent.
- (7) Examine suspect area for loose or missing body plugs.
 - (a) Check that hardened sealer or road dirt is not preventing the plug from seating.
 - (b) Check the hole to be sure that it is not distorted.
 - (c) If necessary, reshape floorpan at plug hole and add a bead of the above sealant around hole to ensure a satisfactory water tight seal.
- (8) Repeat spray test to ensure that an effective repair has been made.
- (9) Install sound insulation material and rear carpet.
- (10) Install rear seat.

Ultrasonic Diagnosis and Repair

- (1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.
- (2) Remove rear seat.
- (3) Remove rear carpet and sound insulation material.
- (4) Close all windows, doors and air vents.
- (5) Using Listener Tool, J-23455-01, perform ultrasonic test as follows:
 - (a) Place transmitter in car adjacent to suspect area and turn switch on.
 - (b) Slowly pass listener over each joint, plug and seam.
 - (c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.
- (6) Clean suspect area as described above under Bonding Surface Preparation.
- (7) Straighten any distorted panels.
- (8) Seal suspect joints or seams using 3M All-Around Autobody Sealant, or equivalent.
- (9) Examine suspect area for loose or missing body plugs.
 - (a) Check for hardened sealer or road dirt preventing plug from seating.
 - (b) Check hole to be sure that it is not distorted.
 - (c) If necessary, reshape rear floorpan at plug hole and add a bead of above sealant around hole to ensure a satisfactory water tight seal.
- (10) Repeat ultrasonic test to ensure that an effective repair has been made.
- (11) Install sound insulation material and rear carpet.
- (12) Install rear seat.

Rear Doors and Glass

An improperly adjusted door or defective sealing system will allow water to leak onto the rear carpet.

NOTE: Before starting door leak diagnosis, ensure that the door is correctly set within the body opening paying particular attention to the door flushness relative to surrounding surfaces. The mating surfaces of body opening and door rubber sealer must be wiped clean and dry. Also, ensure that the door glass is properly adjusted.

Spray Diagnosis and Repair

Repeat Front Doors and Glass Spray Diagnosis and Repair procedures for the rear doors.

Ultrasonic Diagnosis and Repair

Repeat Front Doors and Glass Ultrasonic Diagnosis and Repair procedures for the rear doors.

Rear Quarter Windows

The stationary and opening rear quarter window seals can leak water that may appear on the rear carpet.

NOTE: Before starting rear quarter window leak diagnosis, ensure that the rear quarter windows are properly adjusted.

Spray Diagnosis and Repair

Repeat Rear Quarter Windows Spray Diagnosis and Repair procedures as described under Water on Front or Rear Seats.

Ultrasonic Diagnosis and Repair

Repeat Rear Quarter Windows Ultrasonic Diagnosis and Repair procedures as described under Water on Front or Rear Seats.

WATER ON REAR SHELF

Rear Window

Leaks can occur between the butyl tape and rear window glass or butyl tape and body pinchweld flange. Leaks between the butyl tape and glass will be indicated by water which is visible on the inside of the glass or on the rear shelf. Leaks between the butyl tape and body pinchweld flange will track down and appear on the rear shelf or in the trunk. Also, water can enter at the weld studs or burn holes in the body pinchweld flange.

Spray Diagnosis and Repair

- (1) Remove rear window reveal mouldings, as described in Chapter 3N.

(2) Perform the following spray test using guidelines described under Spray Test above.

(a) Starting at base of rear window C-pillar on one side of car, spray water onto glass across the bottom between the rear panel and glass.

(b) Test vertical section of C-pillar and across top of glass.

(c) Repeat (a) and (b) procedures for other side of car.

(3) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.

(4) Seal rear window as described in detail in Chapter 3N.

(5) Repeat spray test to ensure that an effective repair has been made.

(6) Install rear window reveal mouldings.

Ultrasonic Diagnosis and Repair

(1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, the ultrasonic sound will be blocked.

(2) Remove rear window reveal mouldings.

(3) Close all windows, doors and air vents.

(4) Using Listener Tool J-23455-01, perform ultrasonic test as follows:

(a) Place transmitter in car adjacent to rear window and turn switch on.

(b) Slowly pass listener all around rear window opening.

(c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.

(5) Clean suspect area as described above under Bonding Surface Preparation.

(6) Seal rear window as described in detail in Chapter 3N.

(7) Repeat ultrasonic test to ensure that an effective repair has been made.

(8) Install rear window reveal mouldings.

WATER IN TRUNK/CARGO AREA

Rear Window

Spray Diagnosis and Repair

Repeat Rear Window Spray Diagnosis and Repair described under Water on Rear Shelf.

Ultrasonic Diagnosis and Repair

Repeat Rear Window Ultrasonic Diagnosis and Repair described under Water on Rear Shelf.

Deck Cover, Liftgate and Tailgate

Improperly adjusted deck cover, liftgate, tailgate or defective sealing system will allow water to leak into the trunk/cargo area.

NOTE: Before starting deck cover, liftgate or tailgate leak diagnosis, ensure that the deck cover, liftgate or tailgate are correctly set within the body opening. The mating surfaces of body opening and rubber sealer must be wiped clean and dry.

Spray Diagnosis and Repair

(1) Perform the following spray test using guidelines described under Spray Test above.

(a) Start a lower corner of deck cover, liftgate or tailgate, spray water between lower edge and body panel.

(b) Move slowly up to top of deck cover, liftgate, or tailgate.

(c) Move to opposite lower corner and spray between edge and adjacent body panel.

(d) Move slowly up to top of deck cover, liftgate, or tailgate.

(e) Finally, test top edge to adjacent body panel.

(2) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.

(3) Examine rubber sealers for damage, distortion or incorrect installation. Damaged or distorted rubber sealers should be replaced, as outlined in Chapter 3H.

(4) Correct improperly installed rubber sealers as outlined in Chapter 3H.

(5) In instances of leakage from spot weld burn holes, apply 3M All-Around Autobody Sealant, or equivalent, and touch up with matching body color when dry.

(6) Repeat spray test to ensure that an effective repair has been made.

Ultrasonic Diagnosis and Repair

(1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.

(2) Close all windows, doors, and air vents.

(3) Using Listener Tool J-23455-01, perform ultrasonic test as follows:

(a) Place transmitter in car cargo/trunk compartment, turn switch on.

(b) Slowly pass listener around all edges and sealers.

(c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.

(4) Clean suspect area as described above under Bonding Surface Preparation.

(5) Examine rubber sealers for damage, distortion or incorrect installation. Damaged or distorted rubber sealers should be replaced as outlined in Chapter 3H.

(6) Correct improperly installed rubber sealers as outlined in Chapter 3H.

(7) In instances of leakage from spot weld burn holes, apply 3M All-Around Autobody Sealant, or equivalent, and touch up with matching body color when dry.

- (8) Repeat ultrasonic test to ensure that an effective repair has been made.

Rear Floorpan, Wheelhouse Panels, Cross Sills, Quarter Panels, Center Panels, and Extensions

Water can enter at the rear floorpan, wheelhouse panels and quarter panel seams due to gaps, distorted panels and/or lack of sealer. Leaks can occur between the rear cross sill, center panel, rear floorpan or extension panels due to excessive gaps and/or lack of sealer.

Water can enter around rear taillamp housings or side marker lamps due to defective sealer/gasket or damaged housings. Also, leaking floorpan plugs will allow water to enter.

The light test, described above, may also be used for finding water leaks in the trunk/cargo area.

Spray Diagnosis and Repair

- (1) Remove spare tire.
- (2) Remove cargo mat and/or carpet and sound insulation material, if equipped.
- (3) Remove rear trim panels in suspect area.
- (4) Perform the following spray test using guidelines described under Spray Test above.
 - (a) Spray water from under car at rear floorpan, wheelhouse panels and quarter panel seams.
 - (b) Next spray water across rear floorpan, cross sill, center panel and extension panel seams.
 - (c) Also, spray water across rear floorpan and extension panel plugs.
 - (d) Move spray slowly upwards until water is directed at each wheelhouse panel seam.
 - (e) Direct spray on lamp housings and coach seams.
 - (f) Repeat spray test on other side of car.
- (5) If leaks are noted, dry out suspect area as described above under Bonding Surface Preparation.
- (6) Straighten any distorted panels.
- (7) Seal small suspect joints or seams using 3M All-Around Autobody Sealant, or equivalent.
- (8) Seal large suspect joints or seams using 3M Underseal Rubberized Undercoating, or equivalent.
- (9) Examine suspect area for loose or missing body plugs.
 - (a) Check for hardened sealer or road dirt preventing plug from seating.
 - (b) Check plug hole to be sure that it is not distorted.
 - (c) If necessary, reshape floorpan or extension panels locally and add a bead of the above sealant around hole to ensure a satisfactory water tight seal.
- (10) Replace damaged or distorted lamp housing gaskets and/or seals. Also, tighten lamp housing attaching hardware.
- (11) Seal coach seams with above sealant and touch up with matching body color after sealant is dry.

(12) Tighten fuel tank filler neck screws and seal any holes or breaks in gasket and/or sealer with above sealant.

(13) Repeat spray test to ensure that an effective repair has been made.

(14) Install previously removed rear trim panels.

(15) Install sound insulation material, if removed, and cargo mat and/or carpet.

(16) Install spare tire.

Ultrasonic Diagnosis and Repair

(1) Make sure suspect areas are thoroughly dry. If an opening or hole is full of water, ultrasonic sound will be blocked.

(2) Remove spare tire.

(3) Remove cargo mat and/or carpet and sound insulation material, if equipped.

(4) Remove rear trim panels in suspect area.

(5) Close all windows, doors and air vents.

(6) Using Listener Tool J-23455-01, perform ultrasonic test as follows:

(a) Place transmitter in trunk/cargo compartment, near suspect area, and turn switch on.

(b) Slowly pass listener around all suspect joints/seams.

(c) Mark any area reading approximately 5 on the meter as a indication of a possible leak.

(7) Clean suspect area as described above under Bonding Surface Preparation.

(8) Straighten any distorted panels.

(9) Seal small suspect joints or seams using 3M All-Around Autobody Sealant, or equivalent.

(10) Seal large suspect joints or seams using 3M Underseal Rubberized Undercoating, or equivalent.

(11) Examine suspect area for loose or missing body plugs.

(a) Check for hardened sealer or road dirt preventing plug from seating.

(b) Check plug hole to be sure that it is not distorted.

(c) If necessary, reshape floorpan or extension panels locally and add a bead of above sealant around hole to ensure a satisfactory water tight seal.

(12) Replace damaged or distorted lamp housing gaskets and/or seals. Also, tighten lamp housing attaching hardware.

(13) Seal coach seams with above sealant and touch up with matching body color after sealant is dry.

(14) Tighten fuel tank filler neck screws and seal any holes or breaks in gasket and/or sealer with above sealant.

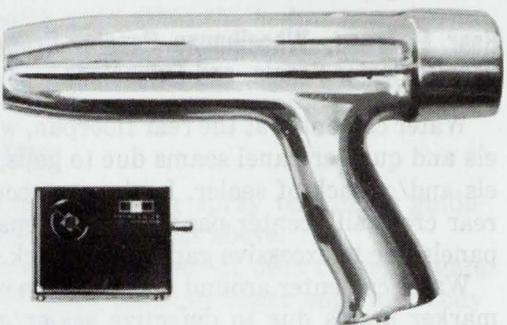
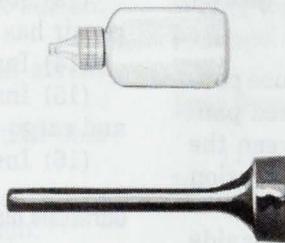
(15) Repeat ultrasonic test to ensure that an effective repair has been made.

(16) Install previously removed rear trim panels.

(17) Install sound insulation material, if removed, and cargo mat and/or carpet.

(18) Install spare tire.

Special Tools



LISTENER
J-23455-01

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INTERIOR WIND NOISES

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Door Adjustments	3A-11	Special Tools	3A-11
General	3A-10	Static Test	3A-10
Liftgate Adjustments	3A-11	Window Adjustments	3A-11
Road Test	3A-11		

GENERAL

A systematic diagnosis is necessary to isolate interior wind noises. The spot where the noise is heard may not be where the trouble really is. Before proceeding with a noise diagnosis, consider the forces that act on the car to generate wind noise.

Air impacts the windshield and is forced around the A-pillar and along the sides of the car. This air motion causes a low pressure area that moves along with the car near the A-pillar and along the sides of the body.

At the same time, air rammed into the car interior by forward motion enters through the heating, ventilating and air conditioning to build a positive pressure inside the car which tends to force the window glass outward.

To maintain a weather-tight, noise-free seal against these two forces, the doors and glass must be properly maintained and adjusted.

STATIC TEST

Before beginning a static test, visually inspect the fit of the doors, liftgates and glass. Proper door, liftgate

and glass adjustments will cure most interior wind noise problems. Also, thoroughly inspect all weatherstrips to make sure they are not damaged or incorrectly installed. Correct improperly installed, misrouted or faulty weatherstrips.

Close all the doors, windows, and vents, turn the blower motor on high and set the heater/air conditioning air control on defrost. Use a stethoscope to listen for air leakage in the suspected area. If the air leakage appears to be excessive compared with the other side of the car, perform the necessary repairs to correct the air leakage and recheck the repaired area.

Another way to static test the car is to use the Listener Tool J-23455-01. This tool makes use of the fact that ultrasonic energy (high frequency sound) has certain properties that are similar to those of fluids (liquids and gases). Ultrasonic energy does not penetrate solids, such as glass or metal. It is, however, transmitted through cracks and openings, such as those that cause body, water, or air leaks.

An operating ultrasonic generator placed inside an automobile body will fill the car with sound energy. This

energy will leak at the same location that permits water and air leaks. However, if an opening or hole is full of water the ultrasonic sound will be blocked. The water path or opening must be dry.

An ultrasonic generator and detector gun form an ideal combination for determining the location and magnitude of water and air leaks. The ultrasonic leak detector can be used effectively as a diagnostic tool realizing it is not an exact tool and has certain limitations.

To use the Listener, place the tone generator inside the car, close the doors, windows and air vents and listen for the signal in the problem area with the listener. A meter in the listener measures the strength of the signal being received and gives a direct read-out on a dial. This gives an accurate reference point for checking the repair. If the first static test shows a high reading and the after-repairs test shows a low reading, the problem has been repaired.

ROAD TEST

If the wind noise was not located and corrected during the static test, it will be necessary to road test the car. Also, the car should be road tested after repairs are completed to verify that the problem has been corrected. Be prepared to make minor adjustments or repairs on the road test.

Take the following tools and materials on the road test:

- Stethoscope
- Body tape
- Weatherstrip adhesive
- Caulking cord
- Silicone Spray
- Screwdrivers
- Knife
- Small socket set

With the above tools and materials, have an assistant drive the car to the test area. Make sure the test road is dry and smooth as possible. It is difficult to hear wind noise on wet, bumpy roads.

While the assistant drives the car, move the stethoscope slowly along the suspected problem area, and listen for the point where the most noise is coming from. Make sure to test the car with the fresh air vents open and closed, because ram air pressure may have an effect on the wind noise level. Also, certain wind noise may come from cowl or vent areas. Drive the car in both directions on the test road, as prevailing wind conditions could change the noise level.

After determining where the most noise is coming from, stop the road test and carefully inspect the problem area. If the cause is minor, repair it with the tools and material taken along and retest the car to find out if the repair has worked.

If in doubt that the problem area has been found, cover the suspected area with body tape and continue the road test. If the noise has been eliminated with the

body tape, the problem area has been located. However, if the noise is still there, apply additional strips of body tape to other areas that may be causing the problem. Continue road testing and applying or removing strips of tape until the wind noise has been isolated.

Many wind noise problems can be satisfactorily repaired while on the road test. However, repair of some of the problems, like aligning a window frame or adjusting a door or window, may require returning to the shop for completion.

DOOR ADJUSTMENTS

Refer to Chapter 3J for detailed procedures on door adjustments.

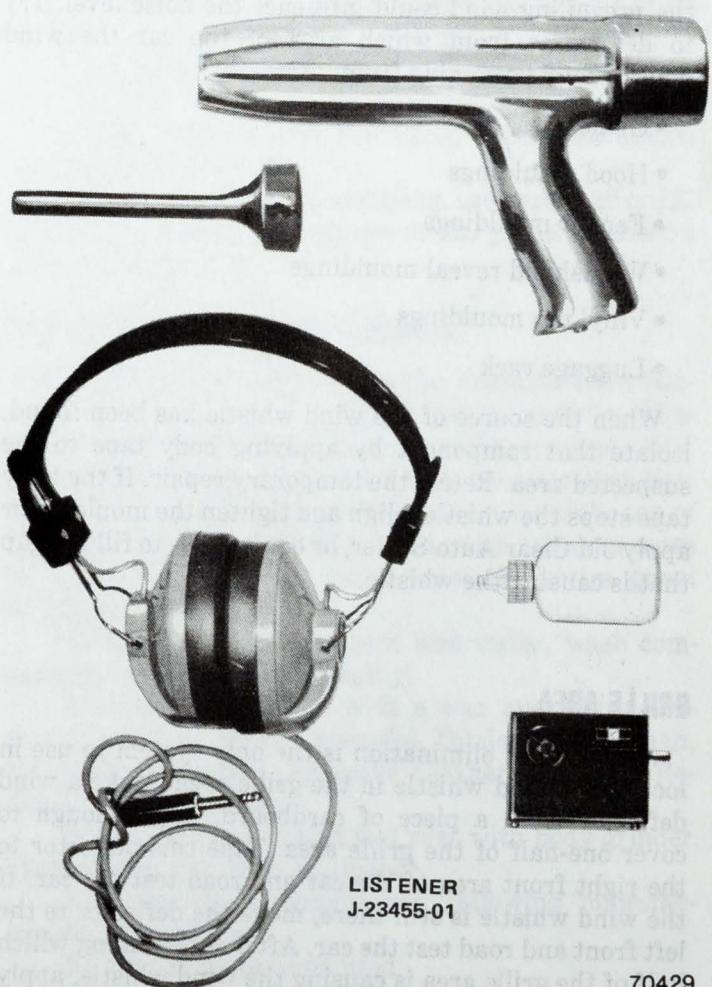
LIFTGATE ADJUSTMENTS

Refer to Chapter 3H for detailed procedures on liftgate adjustments.

WINDOW ADJUSTMENTS

Refer to Chapter 3J and 3K for detailed procedures on window adjustments.

Special Tools



EXTERIOR WIND NOISES

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Fender Mouldings	3A-12	Luggage Racks	3A-12
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GENERAL

Noises generated by loose or unseated mouldings, trim, vibrating grille components, etc., can be difficult to diagnose. The most common noise is generally called a "tea kettle" whistle and is usually due to air flowing under instead of around or over a moulding.

ROAD TEST

There is no way to simulate the air flow that makes exterior wind whistles, so a road test is usually necessary. Take along a roll of body tape to help isolate the problem areas when they are located on the road test. It is usually helpful to have an assistant drive the car or locate the noise. Road test the car with the front windows up and down, to be sure the noise is coming from outside the car. Also, drive the car in both directions, as the prevailing wind could influence the noise level. Try to determine from which area of the car the wind whistle may be coming from:

- Grille area
- Hood mouldings
- Fender mouldings
- Windshield reveal mouldings
- Vinyl top mouldings
- Luggage rack

When the source of the wind whistle has been found, isolate that component by applying body tape to the suspected area. Retest the temporary repair. If the body tape stops the whistle, align and tighten the moulding or apply 3M Clear Auto Sealer, or equivalent, to fill the gap that is causing the whistle.

GRILLE AREA

A process of elimination is the only system to use in locating a wind whistle in the grille area. Make a wind deflector from a piece of cardboard, large enough to cover one-half of the grille area. Tape this deflector to the right front area of the car and road test the car. If the wind whistle is still there, move the deflector to the left front and road test the car. After determining which half of the grille area is causing the wind whistle, apply

body tape to all the mouldings and components around the grille opening. Continue road testing the car, progressively remove tape segments until you have isolated the wind whistle. Align and tighten the mouldings or fill the gap with a clear sealer.

FENDER MOULDINGS

Fender mouldings that are not properly aligned or tightly seated to the fender can cause a wind whistle. If this is the case, apply body tape to the suspected moulding and road test the car. If the wind whistle has been eliminated with the body tape, align and tighten the moulding or fill the gap with a clear sealer.

BODY MOULDINGS

Body, vinyl top or windshield reveal mouldings that are not properly aligned or tightly seated can allow air to flow under rather than over them, generating a wind whistle. Apply body tape to the suspected area and road test the car. If the wind whistle is still there, apply additional strips of body tape to the area, until the wind whistle source is located. If a large area has been covered with body tape, continue the road test and progressively remove body tape segments until the wind whistle has been isolated. Align and tighten the moulding or fill the gap with a clear sealer.

LUGGAGE RACKS

Luggage racks present a problem area similar to the grille area covered above. Make a deflector from cardboard, large enough to cover one-half the frontal area of the luggage rack. Tape the deflector to the luggage rack and road test the car. If the wind whistle is still there, move the deflector to the other side and repeat the road test. After determining which side of the luggage rack is causing the wind whistle, apply body tape to all mouldings, supports and rails. Continue the road test and progressively remove tape segments until the wind whistle has been isolated. Align and tighten the mouldings, supports and rails or fill the gap(s) with clear sealer.

METAL REPAIR AND PAINTING

3B

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	Metallic Color Guide
	Paint Repair With Acrylic Enamel
	Painting Tips

METAL REPAIR

The information contained herein provides instructions for bulge, crease and dent repair. The terms are defined as follows:

- **Bulge**—An impression in the metal from inside to outside.
- **Crease**—A depression in the metal up to 1/2-inch to 2 inches long or longer.
- **Dent**—A depression in the metal larger than 1/4-inch by 1/4-inch.

(1) Wash damaged area with mild detergent and water to remove dirt.

(2) Clean repair area using wax and silicone remover, such as DuPont Prep-Sol, Ditzler Acryli-Clean, 3M General Purpose Adhesive Cleaner and Wax Remover, or equivalent.

(3) Use a grinder to remove paint and to outline damaged area.

(a) Use a grade 24 disc for initial grinding.

(b) Follow up with a grade 50 disc to prevent coarse scratches from showing up in final finish.

(4) A bulge may require application of heat to shrink the metal.

(a) Heat metal bulge with an oxygen-acetylene torch and immediately upset bulge area with a dolly and hammer.

(b) Do not attempt to hammer bulge completely away while metal is hot or metal will be overshrunk.

(5) To restore metal contour of a bulge, crease or dent after straightening and grinding, apply plastic body filler, such as DuPont Polyester Autobody Filler, Ditzler White Body Filler, 3M Plastic Filler, or equivalent. For best results, mix plastic body filler and hardener according to manufacturer's instructions.

(6) Apply plastic filler with a rubber or plastic spreader. Use firm pressure to aid in removing air bubbles which will show up as pinholes.

(7) Use an air file or hand file board for shaping of plastic filler.

(a) For initial shaping of plastic filler, use a grade 24 paper.

(b) For shaping and sanding contours in plastic filler, use a grade 36 or 40 paper.

(c) For finish sanding plastic filler, use a grade 80 paper on a hand file board or air file.

(8) Featheredge paint into bare metal area as described in following steps.

(a) For rough featheredging, use a grade 80 disc on a random disc sander.

(b) For final featheredging, use grade 180 or 220 disc on the random disc sander or 220 grade paper on a hand sanding block.

PAINT REPAIR WITH ACRYLIC ENAMEL

Recent advancements in acrylic enamels have produced a repair procedure which can be used to effectively spot repair a panel or an area where panels join. This procedure should be used only on secondary surfaces of the car (all surfaces below the level of the top of the wheel openings). If repair of a panel requires more than one-half the total panel area, the entire panel should be refinished.

(1) Using a mild detergent and water, wash complete panel and rinse thoroughly.

(2) Clean repair area with a wax and silicone remover, such as DuPont Prep-Sol, Ditzler Acryli-Clean, 3M General Purpose Adhesive Cleaner and Wax Remover, or equivalent.

(3) Remove loose paint and rust with body grinder. Featheredge area with sandpaper.

(4) Apply metal conditioner, following manufacturer's instructions.

(5) Wash area to be painted.

(6) Mask area to be painted.

(7) If bare metal is showing through paint in repair area, use following steps to prime area.

(a) Apply metal conditioner to bare metal according to manufacturer's instructions.

(b) Mix primer following manufacturer's instructions.

(c) Apply primer and allow to air dry.

(d) Remove masking and wet sand repair area.

(e) If scratches or pin holes appear in surface, apply glazing putty according to the manufacturer's instructions.

(f) After glazing putty dries, wet sand and clean area. Apply final coat of primer and allow to air dry.

(g) Wet sand and clean area with an after-sanding cleaner.

(8) Mask area to be painted.

(9) Mix acrylic enamel color using a paint shaker and following manufacturer's mixing instructions.

(10) Adjust air pressure at air regulator to obtain 40 psi at spray gun and spray test panel. Adjust gun to obtain desired pattern.

(11) Apply one medium color coat to primed area and allow paint to set up for 25 minutes.

(12) Apply three or more medium color coats. Overlap edges of each coat to produce a tapered edge. Allow each coat to flash completely.

(13) Adjust air pressure at air regulator to obtain 70 psi at spray gun and spray test panel. Adjust gun as necessary to obtain desired pattern and color match.

(14) Spray one full wet color coat over entire repair area. Overlap edges of previous coat.

(15) Empty gun and fill cup with enamel reducer. Reduce air pressure at air regulator to obtain 20 psi at spray gun.

(16) Spray blend-coat over edges of old and new paint.

(17) Spray one or two medium coats over entire area.

(18) Remove all masking when paint has tacked up.

Painting Tips

- Use only one brand of refinish materials on each repair.
- Follow manufacturing instruction for use of refinish materials.
- Use recommended reducer according to shop temperature and humidity conditions.
- Mix paint thoroughly.
- Spray a test panel and adjust gun to obtain desired color before attempting to spray car.
- When matching colors:

— A given color can be darkened by:

1. decreasing air pressure
2. increasing fluid setting on gun
3. moving gun closer to surface

— A given color can be lightened by:

1. increasing air pressure
2. decreasing fluid setting on gun
3. moving gun farther from surface

Metallic Color Guide

To Lighten a Metallic Color:

- Use a Fast-Drying Thinner
- Add More Reducer
- Raise Air-Pressure
- Apply Dryer Coats
- Wait Longer Between Coats
- Mist Coat
- Adjust Fluid Valve on Gun (Close)
- Adjust Air Valve on Gun (Open)
- Hold Gun Further From the Surface

To Darken a Metallic Color:

- Use a Slow-Drying Thinner
- Use Less Reducer than Normal
- Lower Air-Pressure
- Apply Wetter Coats
- Do Not Wait as Long Between Coats
- Use Retarder in Paint
- Open Fluid Adjustment on Gun
- Close Air Adjustment on Gun
- Hold Gun Closer to the Surface

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FINISHING METAL REPLACEMENT PARTS

Metal body service replacement panels or assemblies are painted with a black factory primer. For proper adhesion of acrylic enamel color coats in service, the following refinish steps are necessary.

(1) Wash part with paint finish cleaning solvent, such as DuPont Prep-Sol, Ditzler Acryli-Clean, 3M General Purpose Adhesive Cleaner and Wax Remover, or equivalent.

(2) Scuff sand part with 220 grade dry sandpaper. Avoid cutting through and rewash part.

(3) Mix primer/sealer following manufacturer's instructions.

(4) Apply primer/sealer and allow to air dry.

(5) Wet sand smooth and clean with after sanding cleaner.

(6) Apply acrylic enamel color coats as required.

(7) If part is a replacement fender, perform following steps:

(a) Clean inside of replacement fender and allow to dry.

(b) Apply 1/8-inch thick film of spray undercoating, using 3M Body Schutz Rubberized Coating, or equivalent, and 3M Applicator Gun, or equivalent, or a double coat of air-dry acrylic enamel to entire inside surface of fender.

NOTE: Do not use aerosol spray undercoating.

FINISHING INTERIOR PLASTIC TRIM PARTS

General

Paintable plastic interior trim parts can be divided into three general types:

- Polypropylene plastic (Rigid)
- ABS plastic (Rigid)
- Vinyl plastic (Flexible)

It is important to be able to identify each plastic in order to paint it satisfactorily.

The purpose of the following test is to determine the identity of a given plastic so that proper paint procedures and materials can be used.

Test for Polypropylene and ABS Plastic

To determine if a service part to be painted is Polypropylene or ABS plastic, perform the following burn test:

(1) From a hidden backside of the part, remove a sliver of plastic with a sharp knife.

(2) Hold sliver of plastic with needlenose pliers and ignite plastic.

(3) Observe burning plastic closely.

(a) Polypropylene burns with a clear blue flame which has a yellow tip and no readily visible smoke. When extinguished it gives off a white smoke with a odor of paraffin.

(b) ABS plastic burns with an orange flame and readily visible black, sooty smoke which hangs temporarily in the air.

Test for Vinyl Plastic

To determine if a part to be painted is vinyl plastic, a copper wire test may be performed as follows:

(1) Heat a copper wire in a suitable flame such as a propane torch until wire glows (a red color).

(2) Touch heated wire to backside or hidden surface of part being tested in a manner so as to retain some of the plastic on the wire.

(3) Return wire and retained plastic to the flame and observe for a green turquoise blue flame. A flame in this color range indicates that plastic being tested is vinyl.

Procedure for Painting Rigid Polypropylene Plastic Parts

The system for painting polypropylene parts involves the use of a special primer. Since polypropylene plastic is rigid, it can be color coated after prime with American Motors appropriate color interior spray paint (plastic and vinyl), or equivalent.

CAUTION: It is essential that the service part be primed first with a coating of DuPont 329S polypropylene primer, or equivalent, according to the manufacturer's instructions. Failure to use the required primer as directed will result in the color coat lifting or peeling.

(1) Wash part thoroughly with paint finish cleaning solvent, such as DuPont Prep-Sol, Ditzler Acryli-Clean, or equivalent.

(2) Apply a thin, wet coat of polypropylene primer according to manufacturer's instructions on label. Wetness of primer is determined best by observing gloss reflection of spray application in adequate lighting.

NOTE: Be sure primer application includes all edges, to ensure proper color coat adhesion.

(3) Allow primer to flash completely.

(4) Apply appropriate color coat of interior spray paint and allow to air dry before installing part.

Procedure for Painting Rigid ABS Plastic Parts

Rigid ABS plastic requires no primer. American Motors color interior spray paint (plastic and vinyl), or equivalent, will adhere satisfactorily to rigid ABS plastics.

(1) Wash part thoroughly with a paint finish cleaning solvent, such as DuPont Prep-Sol, Ditzler Acryli-Clean, or equivalent.

(2) Color coat part using appropriate color American Motors interior spray paint (plastic and vinyl) or equivalent.

(3) Allow to dry and then install part.

NOTE: Apply only sufficient color for proper hiding to avoid wash out of grain effect.

Procedure for Painting Flexible Vinyl Plastic Parts

The paint system for flexible vinyl plastic involves the use of American Motors interior spray paint (plastic and vinyl), or equivalent.

NOTE: No special primer is required when painting flexible vinyl plastic parts.

(1) Wash part thoroughly with a vinyl cleaner. Wipe off cleaner while still wet with a clean, lint-free cloth.

(2) Immediately after wiping surface dry, apply appropriate color American Motors interior spray paint (plastic and vinyl), or equivalent, in wet coats allowing sufficient flash time between coats.

(3) Allow to dry completely before installing part.

NOTE: Apply only sufficient color for proper hiding to avoid wash out of grain effect.

FINISHING FLEXIBLE EXTERIOR PANELS

General

The system for painting flexible plastic exterior replacement panels such as: AMX front air dam and fender extensions and Matador bumper filler panels involves the use of a special primer. After the primer has had sufficient time to flash off if can be painted using either the DuPont Dexlar or Ditzler Delethane flexible base systems. Parts that require touch-up need not be primed if the original paint/primer is still intact.

Ditzler Kit

The Ditzler Delthane paints use a regular acrylic enamel (DAR) base plus several modifiers. These modifiers give the paint its elastomeric properties and have a direct effect on pot-life.

Paint Mix Formulas

DAR	*DXR	DX-1798	Yields
Quart	4 ounces	Quart	2-1/4 quart
Pint	2 ounces	Pint	1-1/8 quart
8 ounces	1 ounce	8 ounces	1-1/5 pint

*Available in pint cans (16 ounces).

Follow manufacturer's application instructions.

DuPont KU

The DuPont kit is a two-pack system. The base paint number will reflect the same 5-digit number, but will have a "B" suffix instead of the usual "L" or "A" found for lacquer or enamel. Isocyanate hardener is added to the base paint in a 4-ounce per pint of base paint ratio.

General Paint Repair Procedures

If the paint has been chipped through the primer and the plastic material has been exposed, it can be repaired using Ditzler's DPX-844 Primer with DTX-895 thinner (reduce 200%) or DuPont 329S Polypropylene Primer.

WARNING: Material described above is designed for application only by qualified personnel using proper equipment. Products mentioned may be hazardous and should only be used according to manufacturer's directions while observing precaution and warning statements printed on the labels.

INSTRUMENT PANELS AND COMPONENTS

3C

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PACER INSTRUMENT PANEL

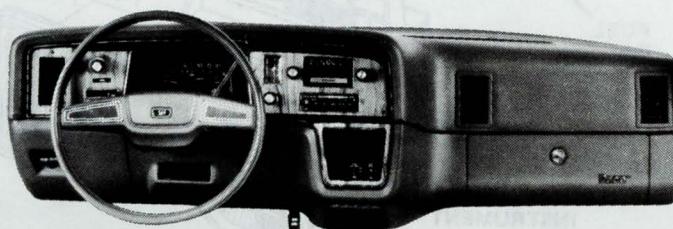
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GENERAL

The instrument panel is constructed of injection molded plastic with metal braces to add rigidity and serve as a support for mounting instruments and other assemblies (fig. 3C-1).

The instrument panel is covered with a vinyl-covered polyurethane crash pad. The crash pad is secured to the instrument panel by sheet metal screws and clips.

The instrument panel is fastened to the front body pillars with capscrews at the sides. The mounting bracket holes are elongated to facilitate alignment during installation.



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Fig. 3C-1 Instrument Panel Assembly

INSTRUMENT CLUSTER BEZEL

Removal

- (1) Place hands on inner side panels of bezel next to gauge lens (fig. 3C-2).

- (2) Push side panels outward and pull bezel toward rear of car.

Installation

- (1) Tilt bezel and position on instrument cluster case.

- (2) Push bezel toward dash panel until side panel clips snap in place.

RADIO OVERLAY

Removal

- (1) Disconnect battery negative cable.

- (2) Remove instrument cluster bezel.

- (3) Remove radio control knobs and retaining nuts, if equipped.

- (4) Remove overlay attaching screws and pull overlay away from instrument panel (fig. 3C-2).

(5) Disconnect electrical connections and remove overlay.

Installation

(1) Position overlay on instrument panel and connect electrical connections, if equipped.

(2) Install overlay attaching screws.

(3) Install radio control knobs and retaining nuts, if equipped.

NOTE: Control knob aligning tabs must fit in control shaft slots when installing control knobs.

(4) Install instrument cluster bezel.

(5) Connect battery negative cable.

HEADLAMP SWITCH OVERLAY

Removal

(1) Disconnect battery negative cable.

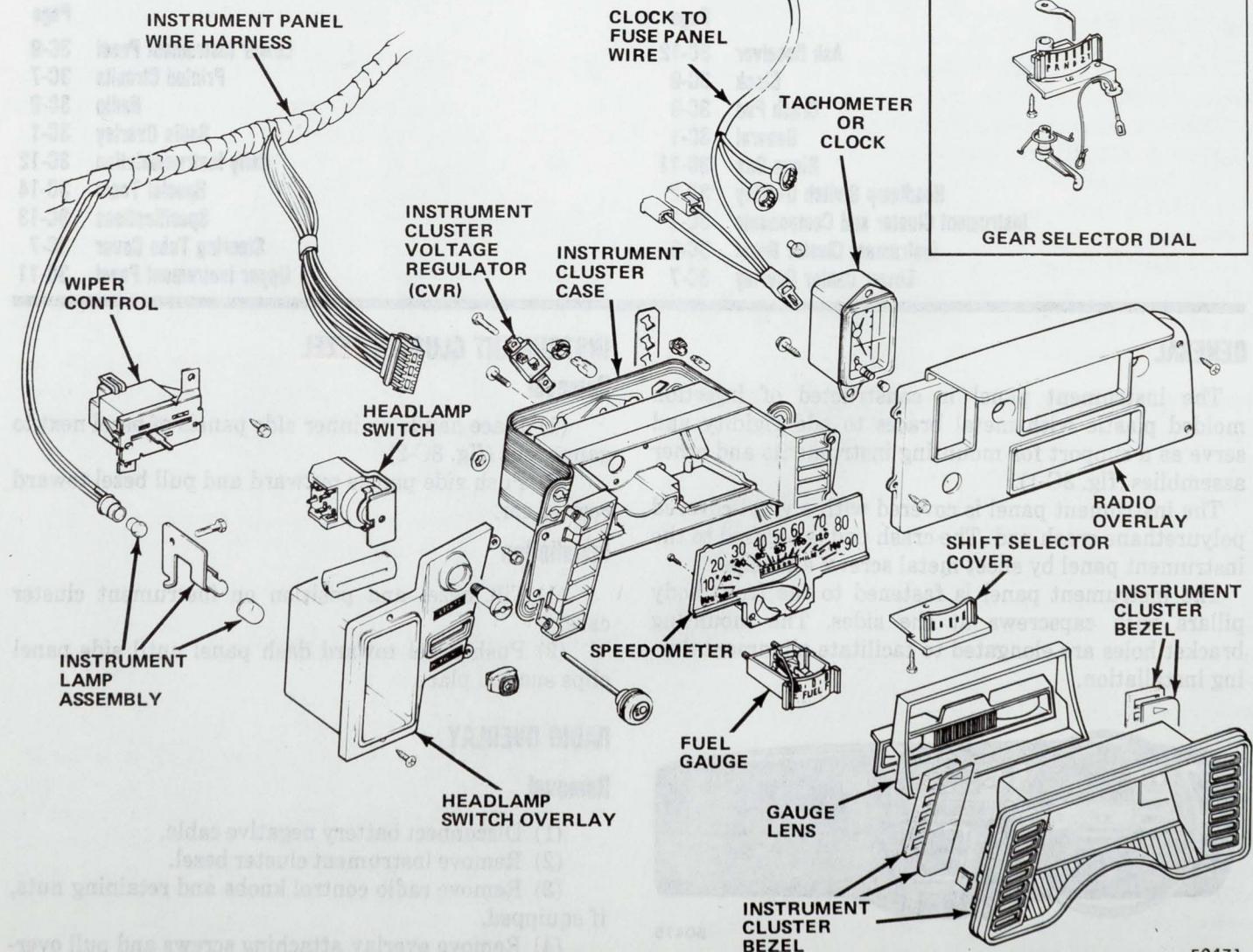


Fig. 3C-2 Instrument Cluster and Instrument Panel—Exploded View

(2) Remove instrument cluster bezel.

(3) Remove overlay attaching screws and pull overlay away from instrument panel.

(4) Disconnect wiper and headlamp switch electrical connections and remove overlay.

Installation

(1) Position overlay on instrument panel and connect wiper and headlamp switch electrical connections.

NOTE: Be sure to connect headlamp switch ground wire.

(2) Align heater or air conditioning outlet duct.

(3) Install overlay attaching screws.

(4) Install instrument cluster bezel.

(5) Connect battery negative cable.

INSTRUMENT CLUSTER AND COMPONENTS

The Pacer instrument cluster contains the following components (fig. 3C-2):

- Speedometer/Odometer
- Constant voltage regulator (CVR)
- Low oil pressure indicator lamp
- Alternator warning indicator lamp
- Fuel gauge
- High temperature indicator lamp
- Seat belt warning lamp
- Turn signal indicator lamps
- Brake system warning lamp/parking brake lamp
- High beam indicator lamp
- Gear selector dial (automatic transmission-column shift)
- Low washer fluid indicator lamp (optional)

For service and diagnosis procedures on above items not covered in this chapter, refer to Chapter 1L—Power Plant Instrumentation, Volume One—Power Plant.

Instrument Cluster Indicators

High Beam Indicator

This indicator is connected to the high beam circuit in the headlamp dimmer switch. When the high beam element is energized in the headlamps, a blue indicator receives current from the dimmer switch and lights on the instrument cluster (fig. 3C-3). The bulb grounds through the cluster ground wire.

Alternator Warning Indicator

A light is used to indicate alternator operation. When the output of the alternator is below battery voltage, a

red indicator marked ALT is seen on the instrument cluster (fig. 3C-3). When the alternator output voltage equals battery voltage, current does not flow in the bulb and the light is off.

Low Oil Pressure Warning Indicator

The low oil pressure indicator (fig. 3C-3) is wired in series with the oil pressure sending unit on the engine block. The sending unit contains a diaphragm, spring, linkage, and electrical contacts. When the ignition switch is in the ON position, the indicator circuit is energized and the circuit is completed to ground through the closed contacts in the sending unit. Upon starting the engine, oil pressure compresses the diaphragm and opens the contacts, opening the circuit to the indicator light. The contacts close when oil pressure drops to 3 to 5 psi (1.4-2.3 kg).

Brake Warning System Indicator

A warning light is incorporated in the hydraulic brake system to indicate when a difference of pressure between the front and rear braking systems occurs. A pressure differential of 70 to 300 psi (31.5-135.0 kg) is required to operate the switch.

The warning bulb is checked at the time the engine is started. The bulb grounds through the ignition switch ground when the switch is in the START position and it should light indicating the bulb is good. The bulb ground circuit must pass through the brake differential pressure switch connector before grounding at the ignition switch. If the brake system fails, the differential pressure switch will ground the bulb circuit and light the lamp, indicating a brake failure.

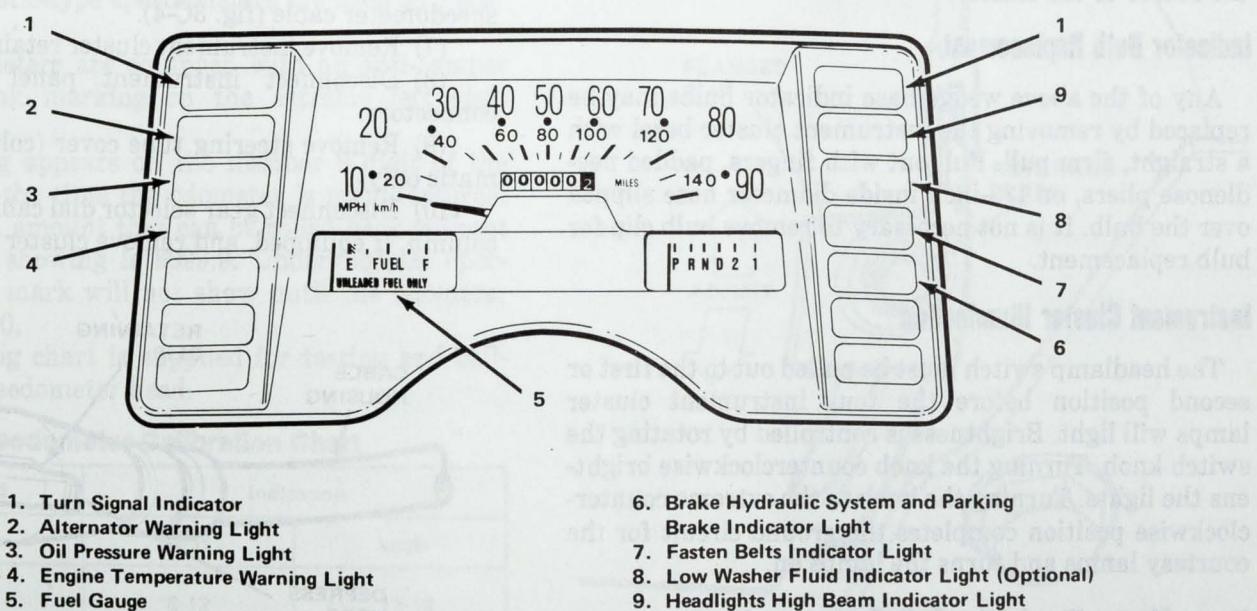


Fig. 3C-3 Instrument Cluster Indicators

Parking Brake Warning Indicator

The parking brake warning indicator system operates the same lamp as the brake warning system (fig. 3C-3). It is lighted when the parking brake is applied and the key is in the ON position.

Current passes from the ignition switch through the parking brake warning/brake system circuit. It grounds at the parking brake mount when the pedal is depressed.

Engine Coolant Temperature Indicator

The temperature indicator circuit consists of a sending unit, wiring, and an indicator lamp (fig. 3C-3). The sending unit is threaded into the rear of the cylinder head. The indicator lamp, located in the instrument cluster is grounded through the sending unit. When engine coolant reaches approximately 250°F (121°C), the sending unit completes the circuit to ground and the lamp lights.

The engine coolant temperature lamp should light when the ignition switch is in the START position. If not, check the bulb.

Low Washer Fluid Indicator (Optional)

The low washer fluid indicator lamp lights when washer fluid in the reservoir falls about 3-3/4 inches (9.5 cm) below the top of the reservoir and the windshield washer is operated (fig. 3C-3). The fluid sensor in the reservoir obtains current from windshield washer motor feed wire. When fluid is below the specified level, the sensor float drops and a small magnet attached to the float assembly causes the sensor contacts to close. With the sensor contacts closed and the washer in operation, the low washer fluid indicator circuit is completed from the sensor to the cluster.

Indicator Bulb Replacement

Any of the above wedge-base indicator bulbs may be replaced by removing the instrument cluster bezel with a straight, firm pull. Pull out with fingers, padded needlenose pliers, or 1/8-inch inside diameter hose slipped over the bulb. It is not necessary to remove bulb clip for bulb replacement.

Instrument Cluster Illumination

The headlamp switch must be pulled out to the first or second position before the four instrument cluster lamps will light. Brightness is controlled by rotating the switch knob. Turning the knob counterclockwise brightens the lights. Turning the knob to the extreme counterclockwise position completes the ground circuit for the courtesy lamps and turns the lamps on.

Upper Cluster Illumination Bulb Replacement

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster bezel.

- (3) Remove headlamp overlay screws and pull overlay rearward.
- (4) Reach behind cluster and remove illumination bulb socket by twisting.
- (5) Replace bulb in socket.
- (6) Install socket in cluster.
- (7) Install headlamp switch overlay.
- (8) Connect battery.

Fuel Gauge/Gear Selector Dial Illumination Bulb Replacement

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster bezel (fig. 3C-2).
- (3) Remove headlamp switch and radio overlay screws and pull rearward.
- (4) Reach through headlamp overlay opening and disconnect speedometer cable from cluster (fig. 3C-4).
- (5) Pull cluster forward enough to reach lower illumination bulb sockets and remove.
- (6) Replace bulb.
- (7) Install socket.
- (8) Install cluster and connect speedometer cable.
- (9) Install overlays.
- (10) Connect battery.

Instrument Cluster Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster bezel with a straight, firm pull (fig. 3C-2).
- (3) Remove radio control knobs and nuts.
- (4) Remove radio overlay retaining screws.
- (5) Remove headlamp switch overlay screws.
- (6) Pull headlamp switch rearward and disconnect speedometer cable (fig. 3C-4).
- (7) Remove instrument cluster retaining screws.
- (8) Disconnect instrument panel wire harness connectors.
- (9) Remove steering tube cover (column shift automatic only).
- (10) Disconnect gear selector dial cable from steering column, if equipped, and remove cluster assembly.

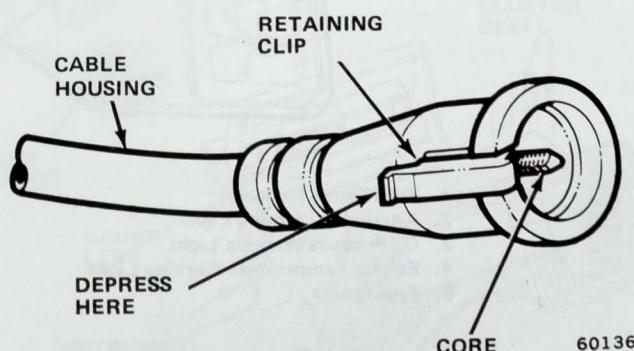


Fig. 3C-4 Disconnecting Speedometer Cable

Instrument Cluster Installation

- (1) Connect gear selector dial cable, if equipped, to steering column.
- (2) Install steering tube cover, if removed.
- (3) Connect speedometer cable.
- (4) Connect instrument panel wire harness connectors to cluster and install cluster assembly.
- (5) Install cluster retaining screws.
- (6) Install headlamp switch overlay and screws.
- (7) Install radio overlay and retaining screws.
- (8) Install radio nuts and control knobs.
- (9) Install instrument cluster bezel.
- (10) Connect battery negative cable.
- (11) Reset clock, if equipped.

Constant Voltage Regulator (CVR) Replacement

The instrument cluster must be removed in order to service the CVR (refer to Instrument Cluster Removal). The regulator (CVR) is held in place on the printed circuit at the back of the instrument cluster by two screws.

Gear Selector Pointer Dial

The gear selector pointer dial is attached to the instrument cluster by three screws. The actuator cable is attached to the steering column with an adjustable clip. It is serviced as a complete unit.

The instrument cluster must be removed to gain access to the dial attaching screws for servicing. Following replacement, adjust the clip to position the indicator pointer on the center of the N in the neutral position (fig. 3C-5 and 3C-6).

Speedometer

Integral magnetic-type speedometers are used on Pacer models.

All speedometers are equipped with an anti-tamper feature: an ink marking on the extreme left digit counter.

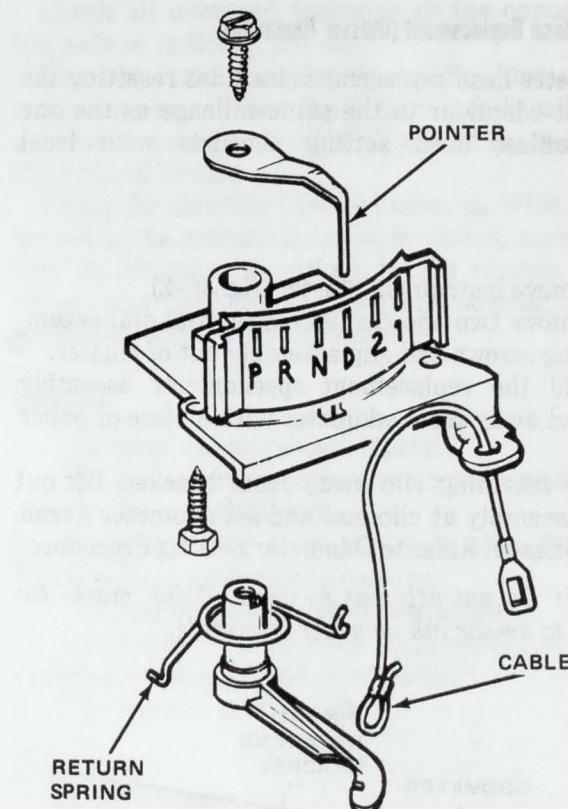
The marking appears on the number 9 digit of the counter, from the time the odometer is manufactured. The maximum amount that can be rolled back without the ink mark showing is 9999.9. Under normal operation, the ink mark will not show until the odometer indicates 90,000.

The following chart is supplied for testing and calibrating the speedometer head.

Speedometer Calibration Chart

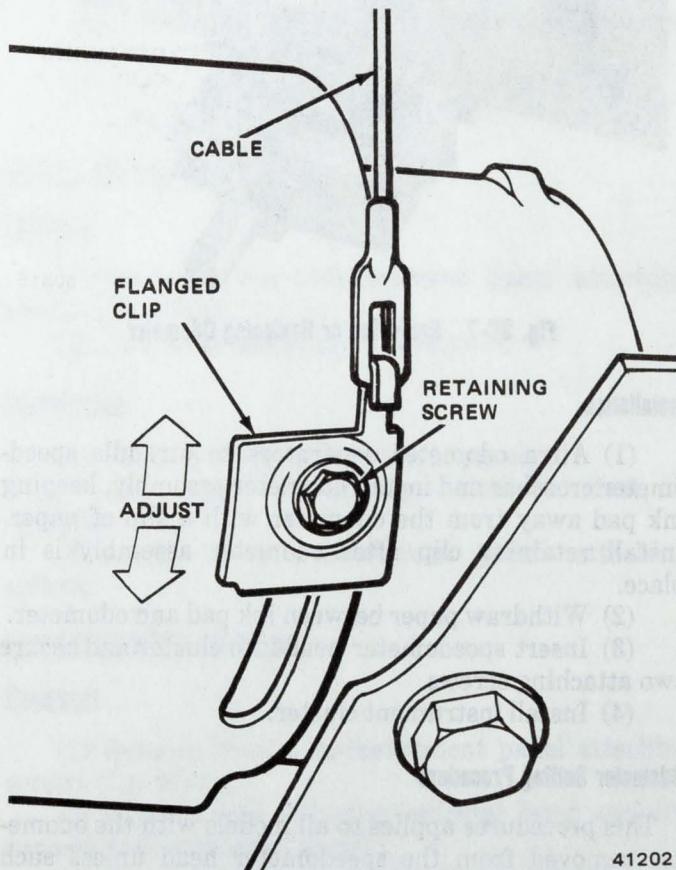
Shaft Speed	Indication	
	RPM	MPH
167	8-12	13-19
500	30-33	48-53
1000	60-63	96-101

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Fig. 3C-5 Gear Selector Pointer Dial



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Fig. 3C-6 Cable Adjustment

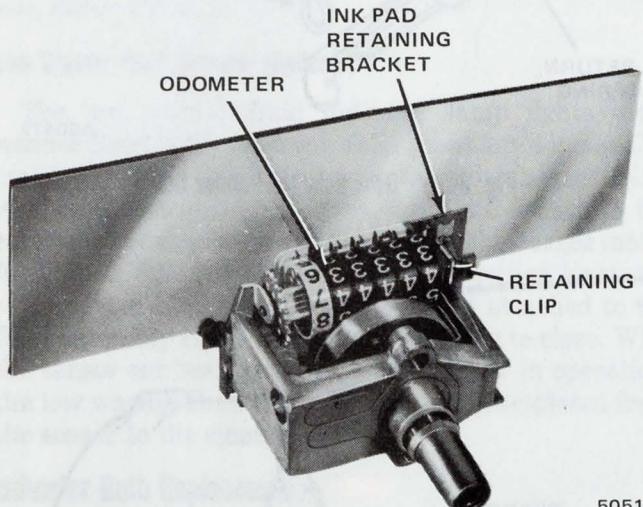
Speedometer Head Replacement (Cluster Removed)

Speedometer head replacement includes resetting the replacement odometer to the same mileage as the one removed, unless such setting conflicts with local ordinances.

Removal

- (1) Remove instrument cluster (fig. 3C-2).
- (2) Remove two speedometer head and dial assembly attaching screws and slip assembly out of cluster.
- (3) Hold the replacement speedometer assembly marking pad away from odometer with a piece of paper (fig. 3C-7).
- (4) Pry retaining clip away from bracket, lift out odometer assembly at clip end and set odometer ahead to proper mileage. Refer to Odometer Setting Procedure.

CAUTION: Do not attempt to wipe off ink mark. Be careful not to smear ink on other numerals.



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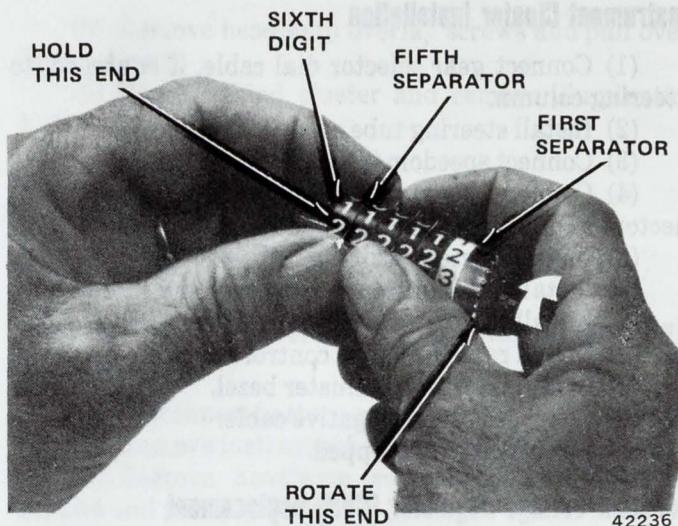
Fig. 3C-7 Removing or Replacing Odometer**Installation**

- (1) Align odometer separators to straddle speedometer crossbar and install odometer assembly, keeping ink pad away from the odometer with a slip of paper. Install retaining clip after odometer assembly is in place.
- (2) Withdraw paper between ink pad and odometer.
- (3) Insert speedometer head into cluster and secure two attaching screws.
- (4) Install instrument cluster.

Odometer Setting Procedure

This procedures applies to all models with the odometer removed from the speedometer head unless such setting conflicts with local ordinances.

Refer to figure 3C-8 for parts identification.



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Fig. 3C-8 Advancing Odometer Reading (For Replacement Only)

- (1) Hold fifth separator as shown in figure 3C-8.
- (2) Rotate first five numerals (five on right side) in their normal direction until the desired sixth digit is obtained.
- (3) When the desired sixth digit is obtained, align the fourth separator with the fifth separator.
- (4) Rotate the first four numerals (four on right side) until the desired fifth digit is obtained. Repeat process with remaining digits to indicate desired mileage.

Speedometer Cable

When working on the speedometer, always inspect speedometer cable and core for kinks or sharp bends.

Removal

- (1) Remove cable end from transmission and disconnect from underbody routing brackets.
- (2) Disconnect battery negative cable.
- (3) Remove instrument cluster bezel.
- (4) Remove headlamp switch overlay screws.
- (5) Pull headlamp switch overlay rearward and disconnect speedometer cable (fig. 3C-4).
- (6) Remove speedometer cable underhood routing clamp.
- (7) Remove speedometer cable and grommet.

Inspection

Visually inspect cable for breaks, kink, cracks, burns or other physical damage. Remove core from cable assembly and place on a flat surface in the form of an inverted U and then cross the open ends. Hold one end in the left hand, the other in the right hand. Twist one end, applying light finger pressure to the other end. If the core is satisfactory, the turning action will be smooth. A damaged core will react by jumping about on flat surface.

Lubrication and Installation

- (1) Lubricate the cable and core with AMC Brake Support Plate Lubricant or a multi-purpose moly grease and assemble.
- (2) Lubricate cable grommet with silicone and insert cable assembly through dash panel.
- (3) Connect speedometer cable to speedometer head.
- (4) Install headlamp switch overlay.
- (5) Install cable underhood routing clamp.
- (6) Connect battery negative cable.
- (7) Position cable in underbody routing clamps and connect cable to transmission.

NOTE: It is absolutely necessary to avoid kinks or sharp bends when routing cable. Position cable to avoid contacting steering shaft and exhaust system components.

Speedometer Gear Chart

Refer to the Parts Catalog for correct gear ratio.

Fuel Gauge Replacement

The fuel gauge circuit and diagnosis are explained in detail in Volume One.

- (1) Remove instrument cluster.
- (2) Remove two screws attaching speedometer to cluster and remove speedometer.
- (3) Remove fuel gauge nuts and remove gauge.
- (4) Position gauge and install nuts.

NOTE: Be sure nuts fasten securely to printed circuit.

- (5) Install speedometer.
- (6) Install cluster.

PRINTED CIRCUITS

Terminal Identification

Refer to figure 3C-9 for a complete cross-reference.

Instrument Cluster Printed Circuit Test

Remove the instrument cluster from the car and remove all bulbs and clips. Do not disassemble the cluster. An ohmmeter or Test Lamp J-21008 should be used. When using an ohmmeter, use low scale (0-10 ohms) and adjust meter to zero reading.

NOTE: Refer to figure 3C-9 for terminal identification.

Connect a test lamp or ohmmeter lead to the correct terminal for the circuit to be tested. Follow each circuit from the terminal to each uncoated position up to the bulb or indicator in that circuit. The test lamp should light or the ohmmeter should read zero ohms at these positions.

Check all uncoated positions on the opposite side of the bulb or indicator circuit.

The test lamp should light or the ohmmeter should read zero ohms. When the test lamp fails to light or the ohmmeter reads resistance on any of the tests, replace the printed circuit.

Check for shorting between circuits. With a lead connected to the correct circuit to be tested, move the other lead to all other terminals in the cluster. The lamp should not light or the ohmmeter should indicate infinite resistance between circuits.

Removal

- (1) Remove instrument cluster.
- (2) Remove speedometer to cluster screws.
- (3) Remove CVR unit.
- (4) Remove all bulbs and bulb clips from cluster. Twist counterclockwise to remove.
- (5) Remove fuel gauge attaching nuts.
- (6) Remove radio noise suppressor, or connector strip when not equipped with radio.
- (7) Remove printed circuit.

Installation

- (1) Install printed circuit.
- (2) Install fuel gauge attaching nuts and tighten securely.
- (3) Install bulbs.
- (4) Install radio noise suppressor or connector strip.
- (5) Install CVR unit.
- (6) Install speedometer screws.
- (7) Install instrument cluster.

STEERING TUBE COVER

Removal

- (1) Remove cover-to-instrument panel attaching screws (fig. 3C-10).
- (2) Pull cover downward and remove.

Installation

- (1) Position cover on instrument panel.
- (2) Align air conditioning outlet to duct, if equipped.
- (3) Install cover-to-instrument panel attaching screws.

LOWER CENTER OVERLAY

Removal

- (1) Remove overlay-to-instrument panel attaching screws (fig. 3C-10).
- (2) Remove rear defogger indicator lamp and disconnect feed wire, if equipped.
- (3) Pull overlay away from instrument panel and remove.

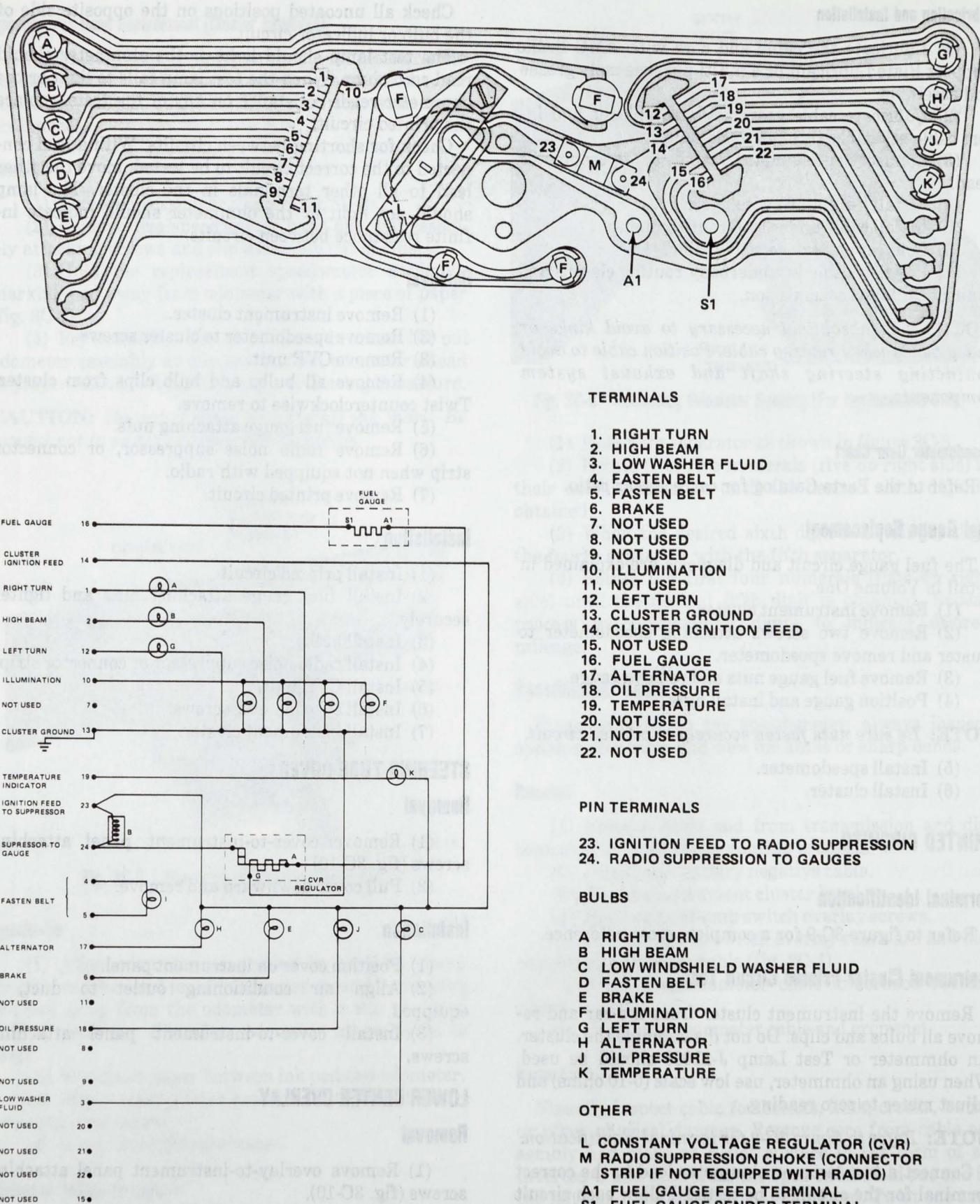


Fig. 3C-9 Instrument Cluster Circuitry

Installation

- (1) Position overlay on instrument panel. Install indicator lamp and connect feed wire, if equipped.
- (2) Install overlay-to-instrument panel attaching screws.

CLOCK**Removal**

- (1) Disconnect battery negative cable.
- (2) Remove cluster bezel with a straight, firm pull (fig. 3C-2).
- (3) Remove radio control knobs and nuts, if equipped.
- (4) Remove radio overlay.
- (5) Disconnect cigarette lighter wiring.
- (6) Disconnect clock wiring.
- (7) Remove clock attaching screws and remove clock from radio overlay.

Installation

- (1) Install clock on radio overlay.
- (2) Connect clock and lighter wiring.
- (3) Install radio overlay (fig. 3C-10).
- (4) Install cluster bezel.
- (5) Install radio nuts and control knobs, if equipped.
- (6) Connect battery negative cable.
- (7) Reset clock.

RADIO**Removal**

- (1) Disconnect battery negative cable.
- (2) Remove radio overlay (fig. 3C-10).
- (3) Loosen radio-to-instrument panel attaching screw.
- (4) Disconnect radio electrical connections and antenna. Remove radio.

Installation

- (1) Position radio on instrument panel and connect electrical connections and antenna.
- (2) Tighten radio-to-instrument panel attaching screw.
- (3) Install radio overlay.
- (4) Connect battery negative cable.

CRASH PAD**Removal**

- (1) Disconnect battery negative cable.
- (2) Remove cluster bezel.

- (3) Remove headlamp overlay screws and pull overlay rearward.

- (4) Remove crash pad attaching screws in cluster area.

- (5) Remove right corner and side windshield finish mouldings.

- (6) Open glove box door and remove crash pad-to-lower instrument panel attaching screws.

- (7) Remove remaining crash pad-to-lower instrument panel attaching screws (fig. 3C-10).

- (8) Pull and lift crash pad away from upper and lower instrument panels, starting at the right corner and continuing to left corner until crash pad retaining clips have separated from upper instrument panel.

- (9) Remove crash pad.

Installation

- (1) Position crash pad on upper instrument panel, inserting retaining clips into panel.
- (2) Push crash pad toward upper instrument panel, snapping retaining clips into panel.
- (3) Install all crash pad-to-lower instrument panel attaching screws. Close glove box door.
- (4) Install headlamp switch overlay.
- (5) Install upper right corner and side windshield finish mouldings.
- (6) Connect battery negative cable.

LOWER INSTRUMENT PANEL**Removal**

- (1) Disconnect battery negative cable.
- (2) Remove Rally Instrumentation cluster, if equipped.
- (3) Remove cluster bezel and remove headlamp switch overlay (fig. 3C-10).
- (4) Remove radio overlay.
- (5) Remove steering tube cover and disconnect gear selector dial cable, if equipped.
- (6) Remove instrument cluster case.
- (7) Remove upper right corner and side windshield finish mouldings.
- (8) Remove crash pad.
- (9) Remove upper left corner and side windshield finish mouldings.
- (10) Cover steering instrument column to prevent damage.
- (11) Remove heater or air conditioning control panel attaching screws and remove radio, if equipped. Move control panel aside.
- (12) Remove right and left scuff plates and cowl trim panels.

NOTE: Identify fuse panel electrical connections for assembly.

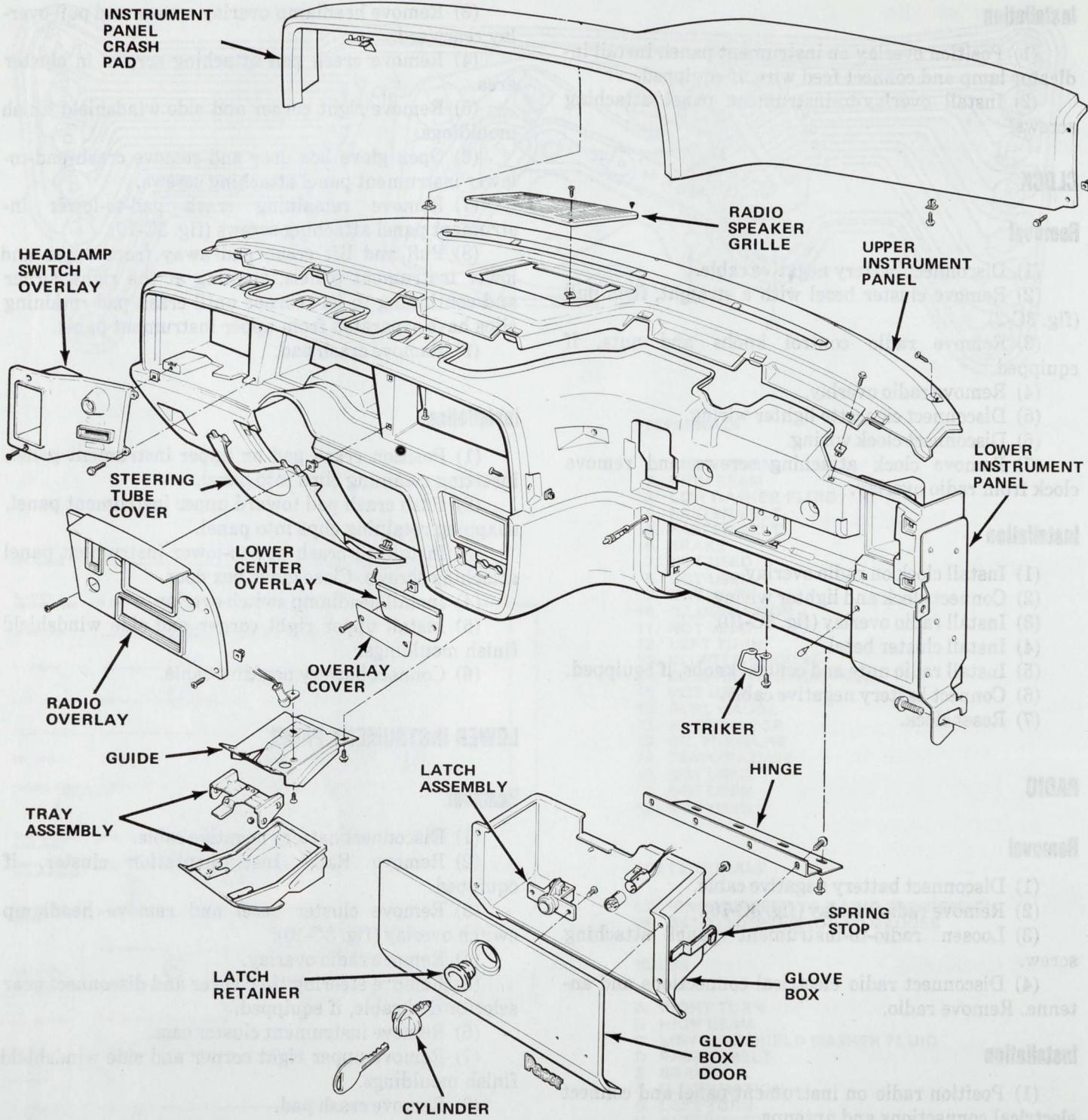


Fig. 3C-10 Instrument Panel and Components

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- (13) Remove fuse panel and disconnect electrical connections.
- (14) Remove lower instrument panel-to-upper instrument panel attaching screws.
- (15) Remove lower instrument panel-to-right air conditioning duct attaching screws.
- (16) Remove lower instrument panel-to-left air conditioning duct attaching screws and remove duct.

- (17) Disconnect parking brake release cable from bracket.
- (18) Remove hood release cable bracket attaching screws and lower cable bracket using Special Tool J-25359-02.
- (19) Remove right and left lower instrument panel-to-body pillar capscrews.

- (20) Loosen steering column mounting bracket attaching nuts.
- (21) Disconnect courtesy lamps, ash receiver and instrument panel ground wires.
- (22) Remove intermittent wiper governor, if equipped.
- (23) Tilt lower instrument panel toward interior while lifting right corner and remove through right door opening.

Installation

- (1) Tilt instrument panel and position on dash panel.
- (2) Install right and left lower instrument panel-to-body pillar capscrews but do not tighten.
- (3) Install lower instrument panel-to-right heater or air conditioning duct attaching screws.
- (4) Connect courtesy lamp, ash receiver, and lower instrument panel ground wires.
- (5) Install intermittent governor, if equipped.
- (6) Position left heater or air conditioning duct on lower instrument panel and install attaching screws.
- (7) Connect fuse panel electrical connections as previously marked and install fuse panel.
- (8) Align steering column and tighten steering column mounting bracket attaching nuts to 10 foot-pounds (13.6 Nm) torque.
- (9) Position hood release cable bracket on lower instrument panel and install attaching screws.
- (10) Connect parking brake release cable to bracket.
- (11) Install lower instrument panel-to-upper instrument panel attaching screws.
- (12) Align lower instrument panel and tighten right and left panel-to-body pillar attaching screws to 80 inch-pounds (9.0 Nm) torque.
- (13) Install right and left cowl trim panels and scuff plates.
- (14) Position heater or air conditioning control panel on lower instrument panel and install attaching screws.
- (15) Install radio, if equipped.
- (16) Install left corner and side windshield finish mouldings.
- (17) Install crash pad.
- (18) Install right corner and side windshield finish mouldings.
- (19) Install instrument cluster case.
- (20) Connect gear selector dial cable, if equipped, and adjust so pointer is centered on N in the neutral position.
- (21) Install steering tube cover.
- (22) Install radio overlay.
- (23) Install headlamp switch overlay.
- (24) Install Rally Instrumentation cluster, if equipped.
- (25) Connect battery negative cable.

UPPER INSTRUMENT PANEL

Removal

- (1) Disconnect battery negative cable.
- (2) Remove upper right corner and side finish mouldings.
- (3) Remove crash pad.
- (4) Remove lower instrument panel-to-upper instrument panel attaching screws.
- (5) Remove upper instrument panel-to-dash panel attaching screws.
- (6) Remove speaker grille and disconnect speaker wire, if equipped.
- (7) Remove radio, if equipped.
- (8) Pull upper instrument panel away from lower instrument panel.
- (9) Tilt upper instrument panel upward and remove with defroster duct attached.

Installation

- (1) Align defroster duct with heater housing. Position upper instrument panel and align defroster duct.
- CAUTION:** Defroster duct must be correctly aligned and all seals intact to assure proper defroster action.
- (2) Install upper instrument panel-to-dash panel attaching screws.
- (3) Install lower instrument panel-to-upper instrument panel attaching screws.
- (4) Install radio and radio overlay, if equipped.
- (5) Connect speaker wire, if equipped and install speaker grille.
- (6) Install crash pad and right corner and side windshield finish mouldings.
- (7) Connect battery negative cable.

GLOVE BOX

Removal

- (1) Depress stop on right side of box and swing glove box downward (fig. 3C-10).
- (2) Remove hinge-to-lower instrument panel attaching screws and remove glove box.

Installation

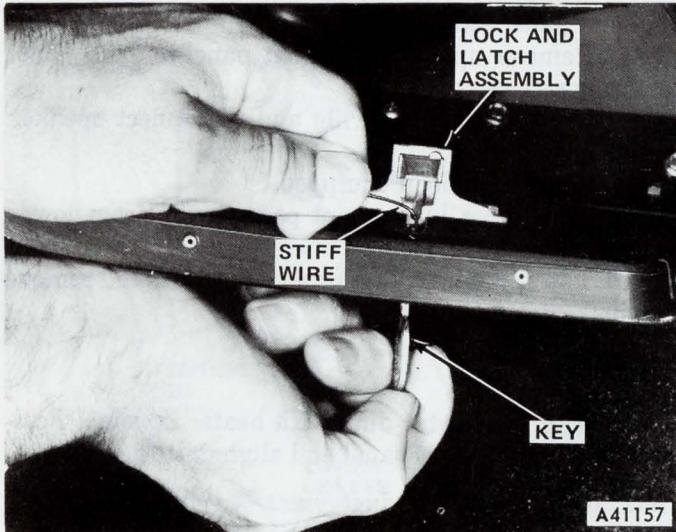
- (1) Position glove box on hinge and install attaching screws.
- NOTE:** Hinge mounting holes are elongated for adjustment.
- (2) Raise glove box and depress stop on right side.

Lock and Latch Assembly

The glove box lock and latch assembly is mounted at the center and upper edge of the glove box door.

Lock Cylinder Removal

- (1) Open glove box door, insert key in lock and turn lock counterclockwise to lock position.
- (2) Remove key.
- (3) Apply pressure to retainer tumbler with a stiff wire and insert key (fig. 3C-11).
- (4) Remove lock cylinder and key as a unit.

**Fig. 3C-11 Lock Cylinder Removal****Lock Cylinder Installation**

- (1) Press retainer tumbler and insert key.
- (2) Manually set latch to simulate a closed door position and insert key and lock cylinder unit.
- (3) Hold unit in place and remove key.
- (4) Turn lock slightly to set retainer tumbler.

Lock Cylinder Coding

The original lock cylinder is serviced as an assembly. If necessary to repair or replace the lock cylinder assembly, a replacement cylinder, individually coded tumblers (numbers one through five) and coil springs are available through the AMC Parts Distribution Centers. Tumblers which are not marked are number 1.

When replacing a lock cylinder, the replacement cylinder can be coded to match the existing key as follows:

- (1) Obtain key code number and corresponding five-digit bitting number.
- (2) Remove cylinder lock assembly from glove box door.
- (3) Code new cylinder to the existing key bitting number (example: Code 42135).
 - (a) Start at key end of cylinder, insert coil spring and a number four tumbler into first slot and snap tumbler into place.
 - (b) Insert a number two tumbler into second slot and a number one tumbler (which is brass) into third slot.
 - (c) Insert a number three tumbler into fourth slot and a number five tumbler into fifth slot.

NOTE: Tumblers snap into position with slight pressure.

- (4) Insert key into cylinder with all tumblers flush with cylinder.
- (5) Install cylinder into housing.

Latch Replacement

Remove lock cylinder as outlined above. Remove two mounting screws and remove latch. To install, place latch in position and install two mounting screws.

Glove Box Striker

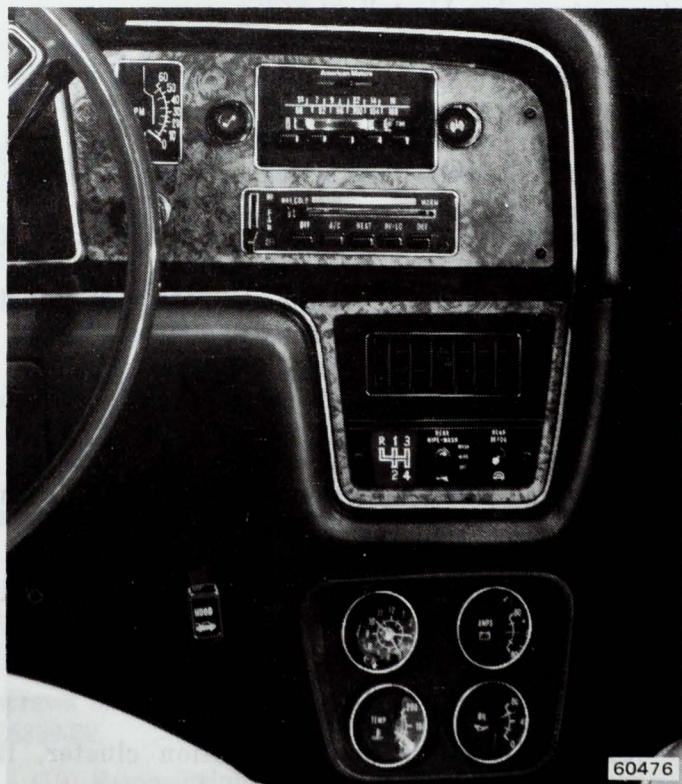
The glove box striker is attached to the instrument panel opening with sheet metal screws. The striker can be moved for door-closing adjustment.

ASH RECEIVER

The drawer-type ash receiver is held in place by a retainer which is mounted to the instrument panel. The retainer is fastened at the front and rear with sheet metal screws.

RALLY INSTRUMENTATION (OPTIONAL)

The optional Rally Instrumentation consists of a tachometer, clock, ammeter, oil pressure gauge, and coolant temperature gauge. The tachometer is located in the instrument panel radio overlay, while the clock, ammeter, oil pressure gauge and temperature gauge are located in a cluster beneath the instrument panel (fig. 3C-12).

**Fig. 3C-12 Rally Instrumentation**

The ammeter, oil pressure, and coolant temperature gauges are magnetic-type gauges. They receive battery voltage and do not require a constant voltage regulator.

The tachometer is a signal-type gauge, and no primary current for the ignition coil passes through it.

Refer to Wiring Diagrams in the back of this manual for wiring and Chapter 1L—Power Plant Instrumentation, Volume One—Power Plant, for service and diagnosis information.

Tachometer Replacement

- (1) Disconnect battery negative cable.
- (2) Remove radio control knobs and nuts, if equipped.
- (3) Remove cluster bezel with a straight, firm pull.
- (4) Remove radio overlay (fig. 3C-10).
- (5) Disconnect cigarette lighter wiring.
- (6) Disconnect tachometer wiring.
- (7) Remove two tachometer attaching screws and remove tachometer from radio overlay.
- (8) Install replacement tachometer.
- (9) Connect tachometer and lighter wiring.
- (10) Install radio overlay.
- (11) Install cluster bezel.
- (12) Install radio nuts and control knobs, if equipped.
- (13) Connect battery negative cable.

Clock or Gauge Replacement

- (1) Disconnect battery negative cable.
- (2) Remove screws attaching Rally Instrumentation cluster to lower instrument panel.
- (3) Disconnect wiring from rear of cluster.
- (4) Remove screws attaching cluster bezel to case.
- (5) Remove clock or gauge from case as required.

- (6) Install replacement clock or gauge in cluster case.
- (7) Install bezel-to-case attaching screws.
- (8) Connect cluster wiring.
- (9) Install cluster-to-lower instrument panel attaching screws.
- (10) Connect battery negative cable.
- (11) Reset clock.

SPECIFICATIONS

Electrical Specifications

Bulb Chart

	Number of Bulbs/ Bulb Trade Number
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Instrument Cluster

Cluster Illumination	2/74, 2/158
Alternator Warning Lamp	1/74
Oil Pressure Warning Lamp	1/74
Brake System Warning Lamp	1/74
Engine Temperature Warning Lamp	1/74
Seat Belt Warning Lamp	1/74
Headlights High Beam Indicator Lamp	1/74
Turn Signal Indicator Lamps	2/74
Low Washer Fluid Indicator Lamp	1/74

Instrument Panel Illumination

Ashtray	1/1445
Clock	2/1815
Glove Box	1/57
Heater-AC Control Panel	1/1815
Headlamp/Wiper-Washer Switches	1/1891
Radio	1/1893
CB Radios (no replacement)	

70195A

Torque Specifications

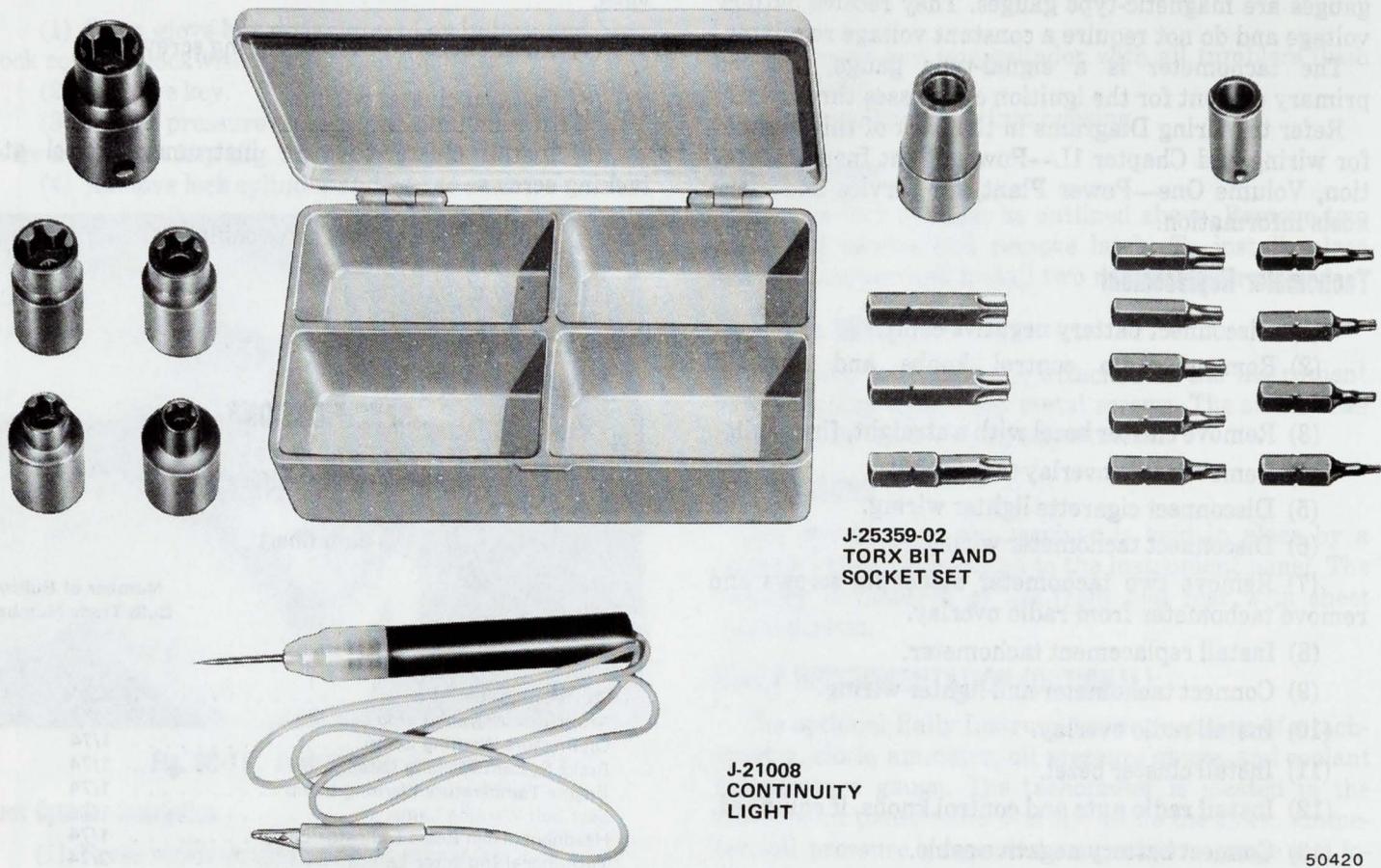
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Inside Hood Release Handle to Instrument Panel	8	7-9	70	60-80
Instrument Panel to Front Pillar	9	7-11	78	65-95
Parking Brake to Cowl	14 min.	14 min.	120 min.	120 min.
Steering Column Bracket to Sled Nuts	14	11-18	10 ft-lbs.	8-13 ft-lbs.

All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

70467A

Special Tools



J-25359-02
TORX BIT AND
SOCKET SET

J-21008
CONTINUITY
LIGHT

50420

GREMLIN - CONCORD - AMX INSTRUMENT PANEL

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Crash Pad 3C-21	Package Tray 3C-15
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Glove Box 3C-23	Radio 3C-21
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Instrument Cluster Indicators 3C-17	Specifications 3C-24
Instrument Panel 3C-21	

GENERAL

The Gremlin-Concord-AMX instrument panel is constructed of injection molded plastic with metal braces to add rigidity, and serve as a support for mounting instruments and other assemblies (fig. 3C-18).

The instrument panel is covered with a vinyl-covered polyurethane crash pad. The crash pad is secured to the instrument panel by means of sheet metal screws and nuts.

The instrument panel on all models is fastened to the dash panel with sheet metal screws along the top and to the front body pillars with capscrews at the sides. The mounting holes are elongated to facilitate alignment of the instrument panels during installation. An anti-squeak tape is placed between the dash panel and the instrument panel during assembly to eliminate noises caused by metal-to-metal contact.

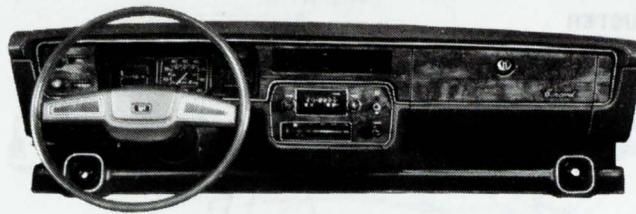


Fig. 3C-13 Instrument Panel

80701

PACKAGE TRAY

Removal

- (1) Disconnect courtesy light connectors.
- (2) Remove screws attaching package tray to cowl trim panels.
- (3) Remove screws attaching hood release cable.
- (4) Remove screws attaching package tray to instrument panel and remove package tray.

Installation

- (1) Install package tray on instrument panel.
- (2) Install hood release cable.
- (3) Install package tray-to-cowl trim panel attaching screws.
- (4) Connect courtesy light connectors.

INSTRUMENT CLUSTER BEZEL

Removal

- (1) Disconnect battery negative cable.
- (2) Cover steering column to protect against scratching.
- (3) Remove bezel attaching screws across top, above radio and behind glove box door (fig. 3C-14).
- (4) Tip bezel outward at top and disengage tabs along bottom edge.
- (5) Unplug glove box lamp connector, if equipped.
- (6) Depress speedometer cable locking tab and move cable away from cluster (fig. 3C-15).
- (7) Push down on three illumination lamp housings above bezel until lamp housings are clear from instrument panel.
- (8) Disconnect headlamp switch and wiper control connectors and switch illumination lamp.

NOTE: Lift two locking tabs to disconnect headlamp switch connector.

- (9) Twist and remove cluster illumination lamp sockets.
- (10) Disconnect instrument cluster connectors.

Installation

- (1) Connect instrument cluster connectors.
- (2) Install cluster illumination lamp sockets.
- (3) Connect headlamp and wiper switch connectors and switch illumination lamp.
- (4) Align tabs at bottom of bezel with openings and raise bezel. It may be necessary to press down on illumination housings for clearance. Do not push bezel into final position.
- (5) Connect speedometer cable.
- (6) Connect glove box lamp wires, if removed.
- (7) Push bezel forward into installed position and install screws.
- (8) Remove protective cloth, connect battery and reset clock, if equipped.

INSTRUMENT CLUSTER ASSEMBLY

The instrument cluster assembly contains the following components (fig. 3C-14):

- Speedometer/Odometer
- Fuel Gauge
- Temperature Gauge
- Clock or Tachometer, if equipped
- Headlamp Switch
- Wiper/Washer Switch
- Turn Signal Indicator Lamps
- Alternator Warning Lamp
- Low Oil Pressure Warning Lamp
- Brake System/Parking Brake Warning Lamp
- Seat Belt Warning Lamp
- High Beam Indicator

For service and diagnosis information on above items not explained in this chapter, refer to Chapter 1L—Power Plant Instrumentation, Volume One—Power Plant.

Removal

- (1) Remove instrument cluster bezel assembly.
- (2) Remove clock or tachometer screws, if equipped. It is not necessary to remove clock adjusting knob.
- (3) Disconnect clock or tachometer feed wires from circuit board, if equipped.
- (4) Remove cluster housing and circuit board-to-bezel screws.
- (5) Remove cluster housing and circuit board assembly from bezel. If equipped with clock or tachometer, move aside as required.

Installation

- (1) Position instrument cluster to instrument cluster bezel. Move clock or tachometer aside as required.
- (2) Install cluster housing mounting screws.

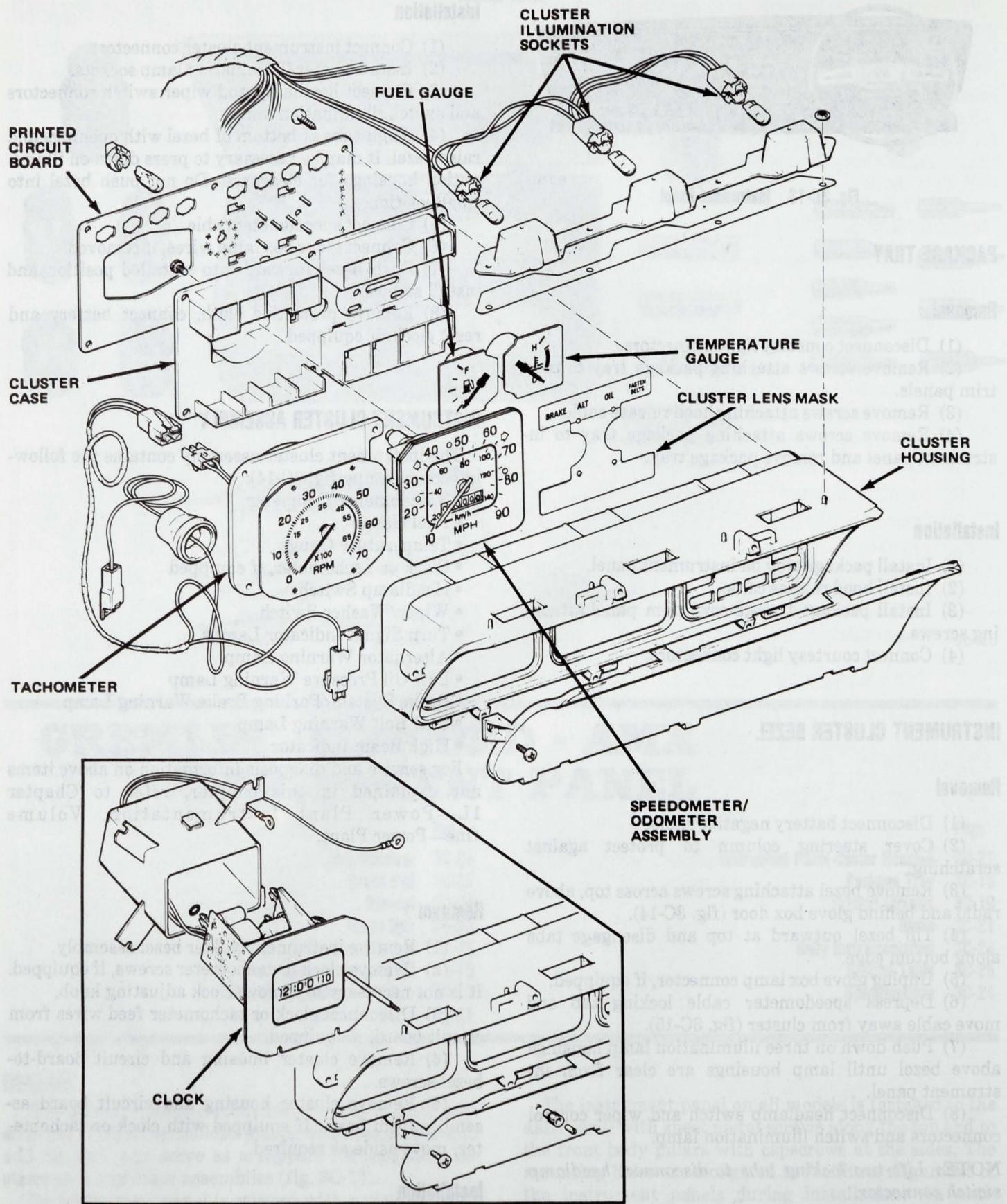
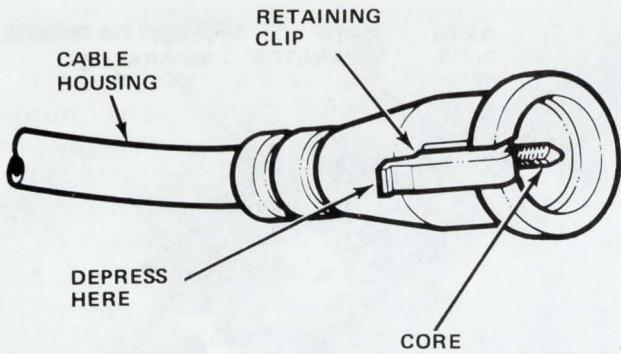


Fig. 3C-14 Instrument Cluster—Exploded View



60136

Fig. 3C-15 Disconnecting Speedometer Cable

NOTE: Clock ground wire terminal must contact foil on circuit board beneath clock mounting boss.

- (3) Connect clock or tachometer feed wires to circuit board, if removed.
- (4) Install clock or tachometer screws.
- (5) Install bezel assembly to instrument panel.

INSTRUMENT CLUSTER INDICATORS AND GAUGES

Refer to figure 3C-16.

Instrument Illumination

The headlamp switch must be pulled out to the first or second position before the instrument lamps will light. Brightness is controlled by rotating the switch knob. Turning the knob counterclockwise brightens the lights. Turning the knob to the extreme counterclockwise position completes the ground circuit for the courtesy lamps and turns the lamps on.

High Beam Indicator

This indicator is connected to the high beam circuit in the headlamp dimmer switch. When the high beam element is energized in the headlamps, a blue indicator receives current from the dimmer switch and lights on the instrument cluster.

Alternator Charge Indicator

A light is used to indicate alternator operation. When the output of the alternator is below battery voltage, a red indicator marked ALT is seen on the instrument cluster. When the alternator output is above battery voltage, other factors being normal (wiring, voltage, regulator, etc.), the indicator light is off.

Low Oil Pressure Indicator

The low oil pressure indicator is wired in series with the oil pressure sending unit on the engine block. The

sending unit contains a diaphragm, spring, linkage, and electrical contacts. When the ignition switch is in the ON position, the indicator circuit is energized and the circuit is completed to ground through the closed contacts in the sending unit. Upon starting the engine, oil pressure compresses the diaphragm and opens the contact points, opening the circuit to the indicator light. The contacts close when oil pressure drops to 3 to 5 psi (1.4-2.3 kg).

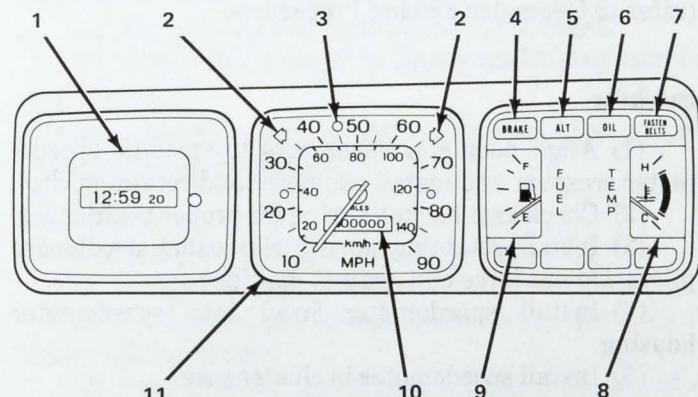
Brake Warning System Indicator

A warning light is incorporated in the hydraulic brake system to indicate when a difference of pressure occurs between the front and rear braking systems. A pressure differential of 70 to 300 psi (31.5-135.0 kg) is required to operate the switch.

The warning bulb is checked at the time the engine is started. The bulb grounds through the ignition switch ground when the switch is in the START position, and it should light indicating the bulb is good. The bulb ground circuit must pass through the brake differential pressure switch before grounding at the ignition switch. If the brake system fails, the differential pressure switch grounds the bulb circuit and the lamp will light, indicating a brake failure.

Parking Brake Warning Indicator

The circuit is wired to a switch at the parking brake and the same lamp as the brake warning system. When the ignition switch is in the ON position and the parking brake is applied, the lamp lights. Current passes from the ignition switch through the brake warning system circuit and on to the cluster lamp. The lamp lights when the parking brake is applied, completing the circuit through the parking brake switch to ground at the lever assembly.



1. Clock/Tachometer
2. Turn Signal Indicators
3. Headlights High Beam Indicator
4. Brake Hydraulic System & Parking Brake Warning Light
5. Alternator
6. Oil Pressure Warning Light
7. Fasten Belts Indicator
8. Temperature Gauge
9. Fuel Gauge
10. Odometer
11. Speedometer

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Fig. 3C-16 Instrument Cluster Indicators

Speedometer

A Stewart-Warner magnetic-type speedometer is used on Gremlin, Concord and AMX models.

The speedometer has a ratchet device to prevent turning the odometer backward.

The following data is supplied for testing and calibrating the speedometer heads.

Speedometer Head Calibration

Shaft Speed	Indication	
RPM	MPH	km/h
167	8-12	13-19
500	30-33	48-53
1000	60-63	96-101
1500	90-94	144-151

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Speedometer Head Replacement (Cluster Removed)

Speedometer head replacement includes resetting the replacement odometer to the same mileage as the one removed, unless such setting conflicts with local ordinances.

Removal

- (1) Remove instrument cluster bezel assembly.
- (2) Remove instrument cluster from bezel.
- (3) Remove attaching screws and separate speedometer head from housing.
- (4) Unhook retaining clip on replacement speedometer/odometer assembly. Twist and push down to disengage clip. **It is important to twist the retaining clip to prevent putting a dimple in the dial face.**
- (5) Lift odometer out and set to proper mileage (refer to Odometer Setting Procedure).

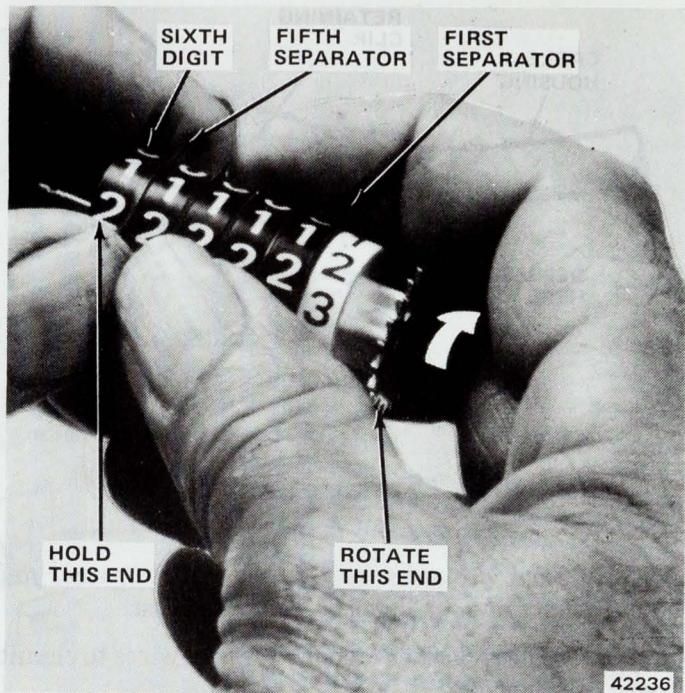
Installation

- (1) Align odometer separators to straddle speedometer crossbar and install odometer and retaining clip.
- (2) Check anti-backup spring for proper positioning.
- (3) Install retaining spring clip using needlenose pliers. Do not force clip against dial face.
- (4) Install speedometer head into speedometer housing.
- (5) Install speedometer in cluster case.
- (6) Assemble cluster housing to bezel.
- (7) Install instrument cluster bezel.

Odometer Setting Procedure

This procedures applies to all models with the odometer removed from the speedometer head unless such setting conflicts with local ordinances.

Refer to figure 3C-17 for parts identification.



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Fig. 3C-17 Advancing Odometer Reading (For Replacement Only)

- (1) Hold fifth separator as shown in figure 3C-16.
- (2) Rotate first five numerals (five on right side) in their normal direction until the desired sixth digit is obtained.
- (3) When the desired sixth digit is obtained, align the fourth separator with the fifth separator.
- (4) Rotate first four numerals (four on right side) repeating the process until the desired fifth digit is obtained. Repeat process with remaining digits to indicate desired mileage.

Speedometer Cable

When working on the speedometer, always inspect speedometer cable and core for kinks or sharp bends.

Removal

- (1) Disconnect speedometer cable at transmission end and unhook from underbody routing bracket.
- (2) Remove package tray, if equipped.
- (3) Depress locking tab and disconnect speedometer cable from cluster (fig. 3C-15).
- (4) Remove cable and grommet from dash panel.

Inspection

Visually inspect cable for breaks, kink, cracks, burns or other physical damage. Remove core from cable assembly and place on a flat surface in the form of an inverted U and then cross the open ends. Hold one end in the left hand, the other in the right hand. Twist one end, applying light finger pressure to the other end. If the core is satisfactory, the turning action will be smooth. A damaged core will react by jumping about on flat surface.

Lubrication and Installation

- (1) Lubricate the cable and core with AMC Brake Support Plate Lubricant or a multi-purpose moly grease and assemble.
- (2) Lubricate grommet with silicone and insert through dash panel.
- (3) Connect speedometer cable to speedometer head.
- (4) Install package tray, if removed.
- (5) Route cable down through engine compartment, position in underbody mounting bracket, and connect to transmission.

NOTE: It is absolutely necessary to avoid kinks or sharp bends when routing cable. Position cable to avoid contacting steering shaft and exhaust system components.

Speedometer Gear Chart

Refer to the Parts Catalog for correct gear ratio components.

Fuel Gauge and Temperature Gauge

The fuel and temperature gauge circuits and diagnosis are covered in detail in Volume One.

Replacement

- (1) Remove instrument cluster bezel assembly.
- (2) Remove instrument cluster from bezel.
- (3) Unplug gauge from circuit board.
- (4) Install gauge. Be sure gauge has good electrical contact with printed circuit.
- (5) Assemble cluster housing assembly (fig. 3C-14).

Clock/Tachometer

Removal

- (1) Remove instrument cluster bezel assembly.
- (2) Remove knob from clock set shaft using a 1/16-inch Allen wrench.
- (3) Disconnect electrical connections. Remove attaching screws from cluster and remove assembly.

Installation

- (1) Install clock or tachometer to cluster with attaching screws and connect electrical wires (fig. 3C-14).
- (2) Install cluster.
- (3) Install knob.
- (4) Connect battery negative cable.
- (5) Reset clock.

PRINTED CIRCUITS

Pin Terminal Identification

Refer to figures 3C-18 and 3C-19 for a complete cross-reference.

Instrument Cluster Printed Circuit Test

Remove the instrument cluster from the car and remove all bulbs. Do not disassemble the cluster. An ohmmeter or Test Lamp J-21008 should be used. When using an ohmmeter, use low scale (0-10 ohms) and be sure to adjust meter to zero reading.

Connect a test lamp or ohmmeter lead to the correct pin plug terminal for the circuit to be tested. Follow each circuit from the pin to each uncoated position up to the bulb or indicator in that circuit. The test lamp should light or the ohmmeter should read zero ohms at these positions.

Check all uncoated positions on the opposite side of the bulb or indicator circuit. The circuit must go to either a pin terminal or a grounding screw.

The test lamp should light or the ohmmeter should read zero ohms resistance.

Connect the test lamp or ohmmeter lead to the ground pin terminal and the other lead to the cluster metal case. The bulb should light or the ohmmeter should read zero ohms. When the bulb fails to light or the ohmmeter indicates resistance on any of the tests, replace the printed circuit.

Check for shorting between circuits. With a lead connected to the correct pin for the circuit to be tested, move the other lead to all other pin terminals in the cluster. The lamp should not light or the ohmmeter should indicate infinite resistance between circuits.

Printed Circuit Board

Removal

- (1) Remove instrument cluster bezel assembly.
- (2) Remove cluster housing assembly and circuit board assembly from bezel. If equipped with clock or tachometer, move aside as required.
- (3) Unplug fuel and temperature gauges from circuit board. Do not damage face plate.
- (4) Remove lamp sockets from circuit board.
- (5) Slide circuit board to disengage locking tabs on housing.

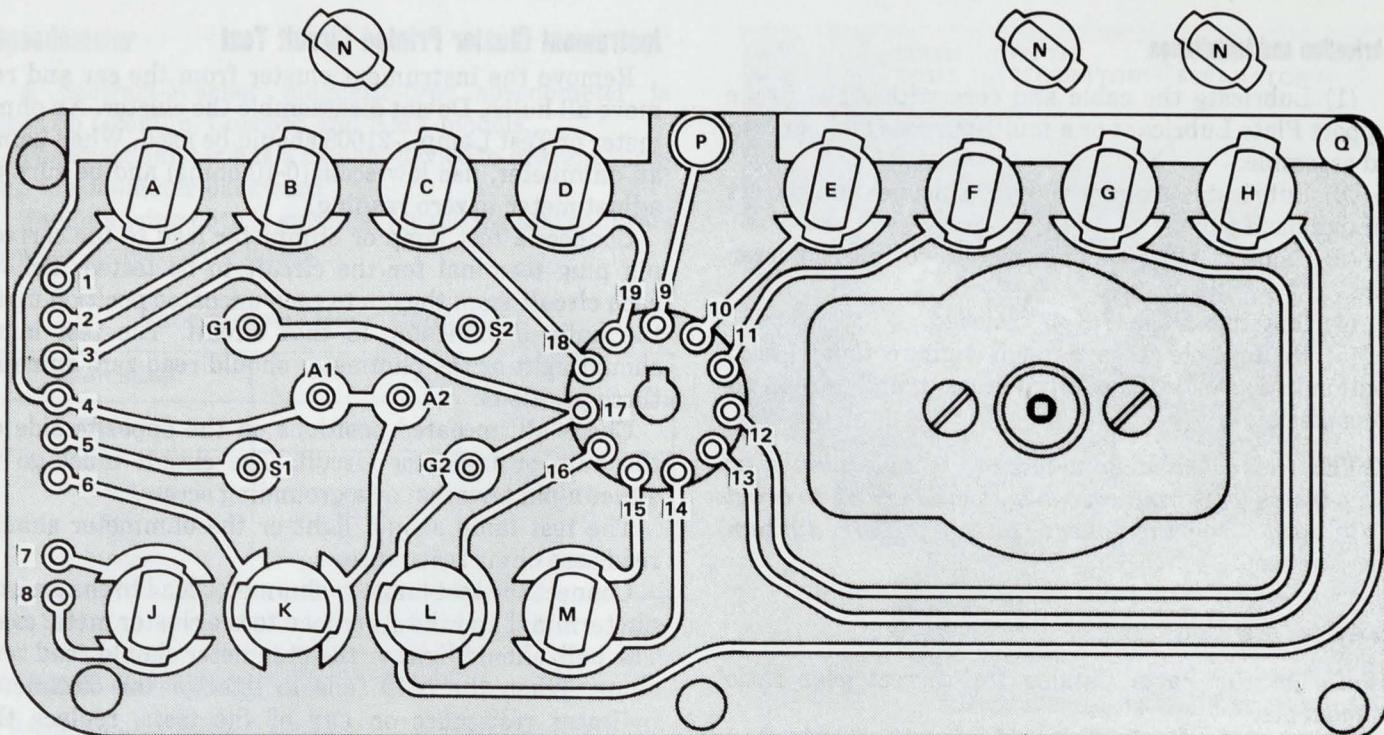
NOTE: Circuit board cannot be removed with gauges or lamp sockets installed.

Installation

- (1) Slide printed circuit board into position.
- (2) Install lamp sockets.
- (3) Install fuel and temperature gauges securely to cluster pin terminals.
- (4) Position housing on bezel. Move clock or tachometer aside, as required.
- (5) Install cluster housing-to-bezel screws.

NOTE: Clock ground wire terminal must contact foil on circuit board beneath clock mounting boss.

- (6) Connect clock or tachometer feed wires to circuit board, if equipped.
- (7) Install clock or tachometer screws.
- (8) Install cluster bezel assembly to instrument panel.



PIN TERMINALS

1. FASTEN BELTS
 2. OIL PRESSURE
 3. FUEL GAUGE
 4. CLUSTER IGNITION FEED
 5. TEMPERATURE GAUGE
 6. NOT USED
 7. NOT USED
 8. NOT USED
 9. CLOCK
 10. RIGHT TURN
 11. NOT USED
 12. HIGH BEAM
 13. LEFT TURN
 14. NOT USED
 15. NOT USED
 16. LOW WASHER FLUID
 17. GROUND
 18. ALTERNATOR
 19. BRAKE

LAMPS

- A FASTEN BELT
 - B OIL PRESSURE
 - C ALTERNATOR
 - D BRAKE
 - E RIGHT TURN
 - F NOT USED
 - G HIGH BEAM
 - H LEFT TURN
 - J NOT USED
 - K NOT USED
 - L LOW WASHER FLUID
 - M NOT USED
 - N ILLUMINATION

OTHER

- S1 TEMPERATURE GAUGE SENDER TERMINAL
A1 TEMPERATURE GAUGE IGNITION FEED TERMINAL
G1 TEMPERATURE GAUGE GROUND TERMINAL
S2 FUEL GAUGE SENDER TERMINAL
A2 FUEL GAUGE IGNITION FEED TERMINAL
G2 FUEL GAUGE GROUND TERMINAL
P CLOCK FEED
Q CLOCK GROUND

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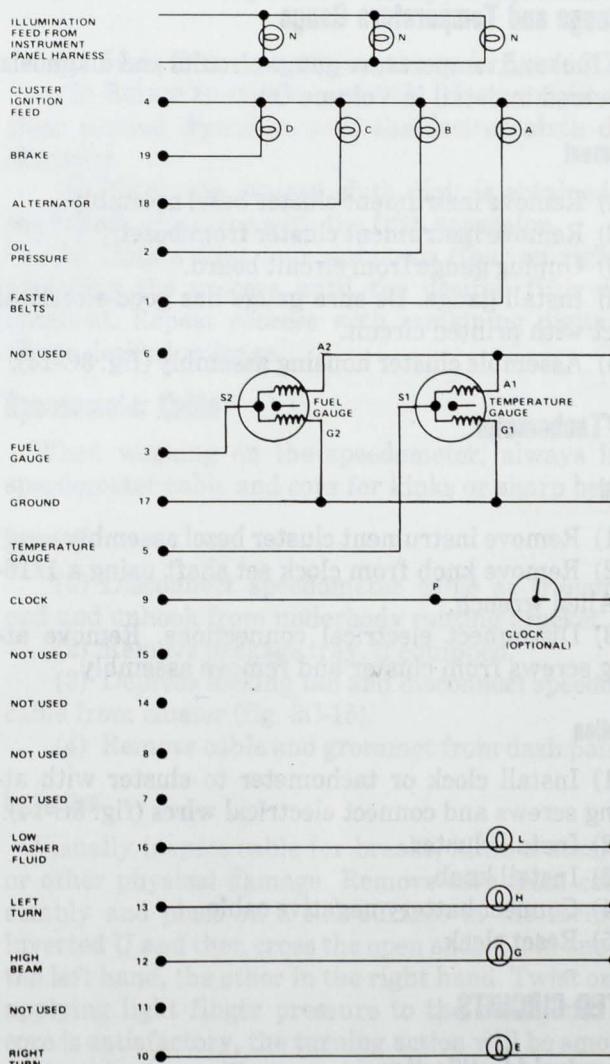


Fig. 3C-18 Rear View of Instrument Cluster —

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Fig. 3C-19 Instrument Cluster Circuitry—Gremlin-Concord-AMX

RADIO

Removal

- (1) Disconnect battery negative cable.
- (2) Remove package tray, if equipped.
- (3) Remove radio knobs and shaft nuts.
- (4) On cars with air conditioning, remove instrument panel center housing retaining screws and remove housing.
- (5) Disconnect antenna, speaker(s) and power lead and remove radio.

Installation

- (1) Position radio and connect power lead, speaker wires and antenna.
- (2) Install center housing, if removed.
- (3) Install radio shaft nuts and knobs.
- (4) Install package tray, if removed.
- (5) Connect battery negative cable.

Bulb Replacement

Bulb sockets are accessible from behind the instrument cluster. The package tray must be removed, if equipped. In some cases, the inside hood release cable bracket must be lowered and the speedometer cable disconnected in order to reach the bulb socket.

CRASH PAD

Removal

- (1) Disconnect battery negative cable.
- (2) Remove package tray, if equipped.
- (3) Depress locking tab and disconnect speedometer cable (fig. 3C-15).
- (4) Remove instrument cluster bezel assembly (fig. 3C-20).
- (5) Remove upper corner finish and windshield pillar mouldings.
- (6) Remove glove box liner.
- (7) Remove crash pad retainers (accessible from engine side of instrument panel).
- (8) Remove crash pad.

Installation

- (1) Position crash pad on instrument panel.
- (2) Install crash pad-to-instrument-panel retainers.
- (3) Install glove box liner.
- (4) Install windshield pillar and corner finish mouldings.
- (5) Install instrument cluster bezel assembly.
- (6) Connect speedometer cable.
- (7) Install package tray, if removed.
- (8) Connect battery negative cable.
- (9) Reset clock, if equipped.

INSTRUMENT PANEL CENTER HOUSING

Removal

- (1) Open glove box door and remove all screws attaching center housing to instrument panel (fig. 3C-20).
- (2) Remove screws and nut attaching ash receiver and retainer.
- (3) Remove radio knobs and attaching nuts, if equipped.
- (4) Remove center housing and disconnect electrical wiring.

Installation

- (1) Connect electrical wiring.
- (2) Position center housing to instrument panel and install screws.
- (3) Install radio attaching nuts and knobs, if removed.
- NOTE:** Control knob aligning tabs must fit in control shaft slots when installing control knobs.
- (4) Install ash receiver retainer and ash receiver. Close glove box.

INSTRUMENT PANEL

Removal

- (1) Disconnect battery negative cable.
- (2) Remove package tray. Cover column with a cloth to prevent damage.
- (3) Remove instrument cluster bezel assembly.
- (4) Remove instrument panel center housing and radio.
- (5) Disconnect heater or AC control cables (fig. 3C-20).
- (6) Remove steering tube cover, loosen steering column mounting bracket attaching bolts and lower the column.
- (7) Remove windshield wiper governnor, if equipped.
- (8) Remove screws attaching parking brake bracket to dash panel.
- (9) Remove fresh air vent cable attaching screws.
- (10) Remove inside hood release cable screws and lower the cable.
- (11) Remove upper corner finish and windshield pillar mouldings.
- (12) Loosen right and left instrument panel-to-body-pillar capscrews.
- (13) Remove screws attaching upper instrument panel to dash panel.
- (14) Tilt instrument panel and remove.

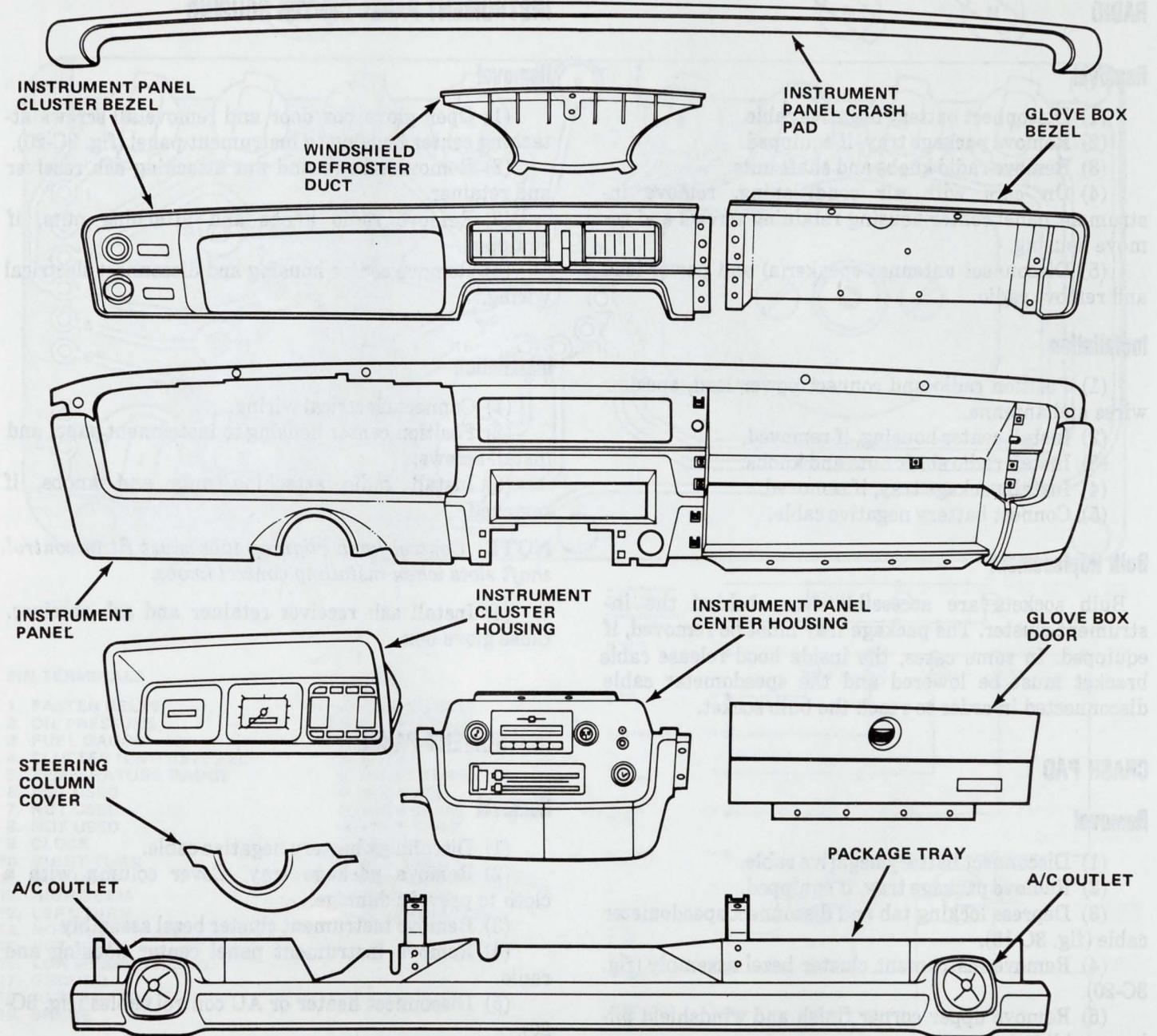


Fig. 3C-20 Instrument Panel and Components

Installation

- (1) Position instrument panel to dash panel over right and left instrument-panel-to-body-pillar cap-screws. Do not tighten capscrews.
- (2) Align instrument panel and install upper attaching screws. Tighten right and left capscrews to 80 inch-pounds (9.0 Nm) torque.
- (3) Align steering column and tighten mounting bracket nuts to 10 foot-pounds torque (13.6 Nm) and install steering tube cover.
- (4) Install inside hood release cable.
- (5) Install fresh air vent cable attaching screw.

- (6) Install parking brake bracket to dash panel attaching screws, and tighten to 120 inch-pounds torque (13.6 Nm).
- (7) Install corner finish and windshield pillar mouldings.
- (8) Install wiper governor assembly, if removed.
- (9) Connect heater or AC control cables.
- (10) Install radio and instrument panel center housing.
- (11) Install instrument cluster bezel assembly.
- (12) Install package tray.
- (13) Connect battery negative cable. Remove protective cloth.

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GLOVE BOX

The lower half of the glove box is molded as a part of the instrument panel. The upper half is attached to the opening of the glove box with sheet metal screws (fig. 3C-21).

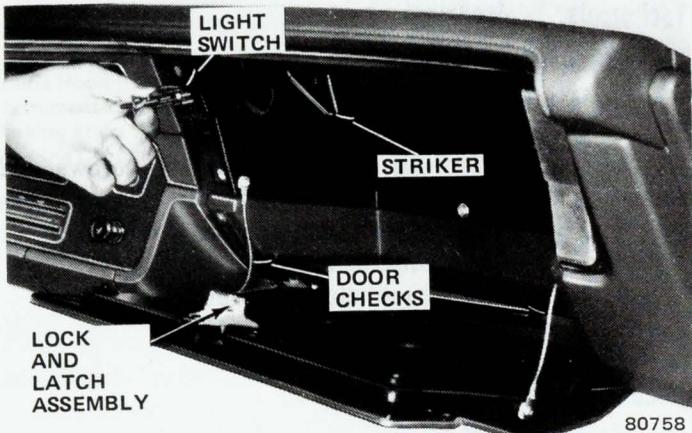


Fig. 3C-21 Glove Box Assembly

Glove Box Door and Hinge

The glove box door hinge mounting holes are elongated for adjustment. The hinge is attached to the glove box door with three screws and to the instrument panel with three nuts which are accessible from under the instrument panel.

Glove Box Striker

The striker is mounted on the instrument panel at the center as shown in figure 3C-21. The striker may be adjusted in or out to obtain complete closing of glove box door.

Lock and Latch Assembly

The lock and latch assembly is mounted in the center of the glove box door. Turning the glove box lock knob clockwise releases a spring-loaded latch which serves as an assist for opening the door. Closing the door again sets the latch and repositions the lock knob.

The latch assembly is held in place with a retainer, accessible after the lock cylinder has been removed (fig. 3C-22).

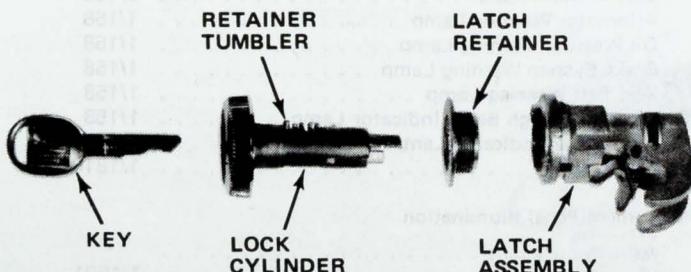


Fig. 3C-22 Glove Box Lock Components

Removal

- (1) Manually set latch to simulate a closed-door position.

(2) Insert a stiff wire through opening in lock and press down on retainer tumbler (fig. 3C-23).

(3) Continue to apply pressure and insert the key. The lock cylinder assembly can then be removed.

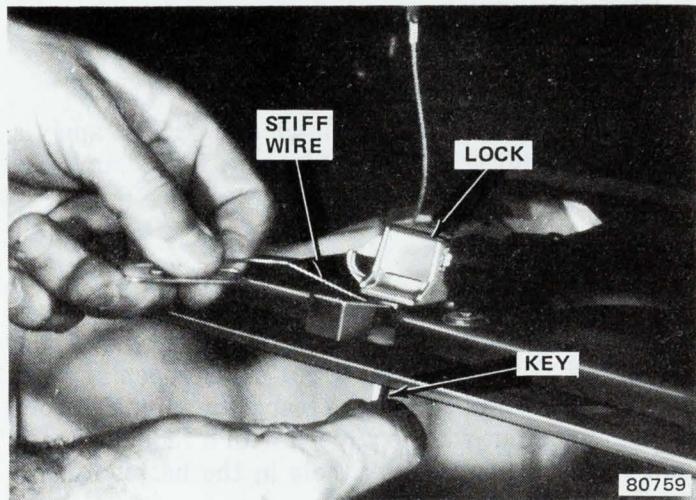


Fig. 3C-23 Lock Cylinder Removal

Installation

(1) Depress release tumbler and insert key into lock cylinder. All tumblers should be flush with cylinder.

(2) Hold glove box latch to simulate a closed-door position and insert lock cylinder assembly.

(3) Hold lock cylinder assembly in place and remove key.

(4) Turn lock cylinder slightly to set retainer tumbler.

Lock Cylinder Coding

The original lock cylinder is serviced as an assembly. If necessary to repair or replace the lock cylinder assembly, a replacement cylinder, individually coded tumblers (numbers one through five) and coil springs are available through the AMC Parts Distribution Centers. Tumblers which are not marked are number 1.

When replacing a lock cylinder, the replacement cylinder can be coded to match the existing key as follows:

(1) Obtain key code number and corresponding five-digit bitting number.

(2) Remove cylinder lock assembly from glove box door.

(3) Code new cylinder to the existing key bitting number (example: Code 42135)

(a) Start at key end of cylinder, insert coil spring and a number four tumbler into first slot and snap tumbler into place.

(b) Insert a number two tumbler into second slot and a number one tumbler (which is brass) into third slot.

(c) Insert a number three tumbler into fourth slot and a number five tumbler into fifth slot.

NOTE: Tumblers snap into position with slight pressure.

(4) Insert key into cylinder with all tumblers flush with cylinder.

(5) Install cylinder into housing.

Lubrication

To lubricate the glove box latch and striker, apply a thin coat of Lubriplate, or equivalent, to the latch and striker.

ASH RECEIVER

The drawer-type ash receiver is held in place by a retainer which is mounted to the instrument panel. The retainer is fastened at the front of the opening with sheet metal screws and at the rear with a nut and bolt, or a stud and nut when equipped with a radio. Ashtray light is provided through a hole in the heater control panel.

RALLY INSTRUMENTATION (OPTIONAL)

The optional Rally Instrumentation consists of a tachometer, clock, ammeter, oil pressure gauge, and vacuum gauge. The tachometer is located in the instrument cluster, while the clock, ammeter, oil pressure gauge and vacuum gauge are located in a cluster beneath the instrument panel (fig. 3C-24).

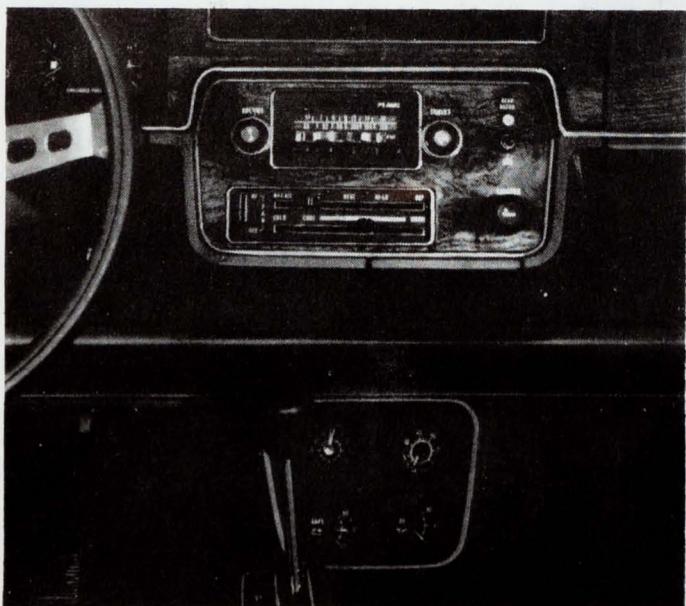


Fig. 3C-24 Rally Instrumentation

The ammeter and oil pressure gauges are magnetic-type gauges. They receive battery voltage and do not require a constant voltage regulator.

The tachometer is a signal-type gauge, and no primary current for the ignition coil passes through it.

Refer to Wiring Diagrams in the back of this manual for wiring and Chapter 1L—Power Plant Instrumentation, Volume One—Power Plant, for service and diagnosis information.

Tachometer Replacement

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster assembly.
- (3) Disconnect tachometer wiring.
- (4) Remove two tachometer attaching screws and remove tachometer from cluster.
- (5) Install replacement tachometer.
- (6) Connect tachometer wiring.
- (7) Install instrument cluster assembly.
- (8) Connect battery negative cable.

Clock or Gauge Replacement

- (1) Disconnect battery negative cable.
- (2) Remove screws attaching Rally Instrumentation cluster to instrument panel.
- (3) Disconnect wiring from rear of cluster.
- (4) Remove screws attaching cluster bezel to case.
- (5) Remove clock or gauge from case as required.
- (6) Install replacement clock or gauge in cluster case.
- (7) Install bezel-to-case attaching screws.
- (8) Connect cluster wiring.
- (9) Install cluster-to-instrument panel attaching screws.
- (10) Connect battery negative cable.
- (11) Reset clock.

SPECIFICATIONS

Electrical Specifications

Bulb Chart

Instrument Cluster	Number of Bulbs/ Bulb Trade Number
Cluster Illumination	3/158
Alternator Warning Lamp	1/158
Oil Pressure Warning Lamp	1/158
Brake System Warning Lamp	1/158
Seat Belt Warning Lamp	1/158
Headlights High Beam Indicator Lamp	1/158
Turn Signal Indicator Lamps	2/158
Clock	1/1816

Instrument Panel Illumination

Ashtray	*
Glove Box	1/1891
Heater-AC Control Panel	1/1815
Headlamp/Wiper-Washer Switches	1/1815
Radio	1/1893
CB Radios (no replacement)	

*Illuminated by Heater-A/C Control Panel.

Torque Specifications

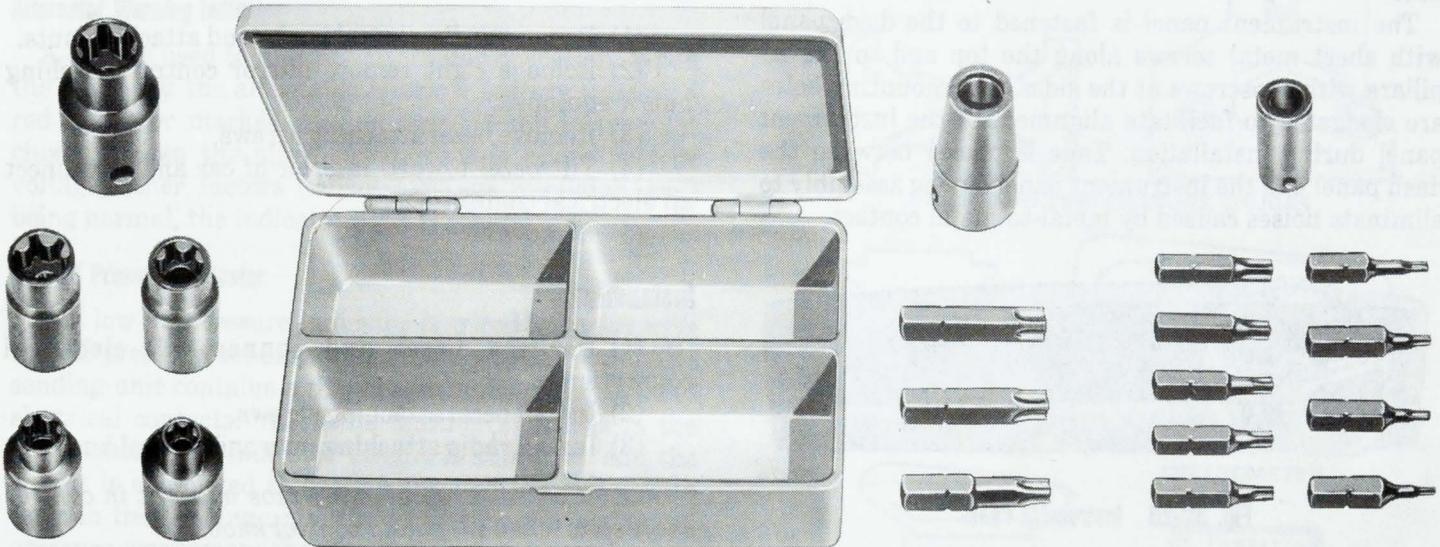
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Inside Hood Release Cable Bracket to Instrument Panel	5	3-6	40	30-50
Instrument Panel to Front Pillar	9	7-11	78	65-95
Parking Brake to Instrument Panel and Door Panel	14 min.	14 min.	120 min.	120 min.
Steering Column Bracket to Sled Nuts	14	11-18	10 ft-lbs.	8-13 ft-lbs.

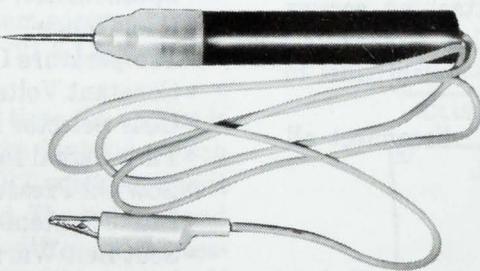
All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

70467B

Special Tools



J-25359-02
TORX BIT AND
SOCKET SET



J-21008
CONTINUITY
LIGHT

50420B

MATADOR INSTRUMENT PANEL

	Page
Ash Receiver	3C-36
Crash Pad	3C-32
General	3C-26
Glove Box	3C-35
Instrument Cluster	3C-26
Instrument Cluster Bezel	3C-26

	Page
Instrument Panel	3C-34
Lower Instrument Finish Panel	3C-26
Printed Circuits	3C-31
Radio	3C-31
Special Tools	3C-37
Specifications	3C-36

GENERAL

The Matador instrument panel is constructed of formed sheet metal (fig. 3C-25).

The instrument panel is covered with a vinyl-covered polyurethane crash pad. The crash pad is secured to the instrument panel by means of sheet metal screws and nuts.

The instrument panel is fastened to the dash panel with sheet metal screws along the top and to the A-pillars with capscrews at the sides. The mounting holes are elongated to facilitate alignment of the instrument panel during installation. Tape is placed between the dash panel and the instrument panel during assembly to eliminate noises caused by metal-to-metal contact.

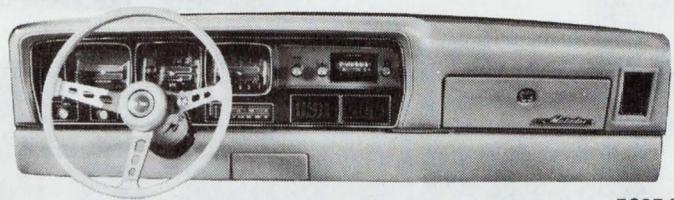


Fig. 3C-25 Instrument Panel

LOWER INSTRUMENT FINISH PANEL

Removal

- (1) Remove right and left fresh air vent cables from lower finish panel, if equipped.
- (2) Remove hood release cable attaching screws from lower finish panel using Torx Bit Tool J-25359-02.
- (3) Remove screws attaching lower finish panel to bracket using Torx Bit Tool J-25359-02.
- (4) Rotate finish panel downward, disconnect all electrical connections, and remove panel.

Installation

- (1) Position lower finish panel and connect all electrical connections.
- (2) Install screws attaching lower finish panel to bracket using Torx Bit Tool J-25359-02.

(3) Install hood release cable attaching screws to lower finish panel using Torx Bit Tool J-25359-02.

(4) Install right and left fresh air vent cables to lower finish panel, if equipped.

INSTRUMENT CLUSTER BEZEL

Removal

- (1) Remove radio control knobs and attaching nuts.
- (2) Remove right remote mirror control attaching nut, if equipped.
- (3) Remove bezel attaching screws.
- (4) Tilt bezel toward interior of car and disconnect all electrical connections.
- (5) Remove bezel.

Installation

- (1) Position bezel and connect all electrical connections.
- (2) Install bezel attaching screws.
- (3) Install radio attaching nuts and control knobs.

NOTE: Control knob aligning tabs must fit in control shaft slots when installing control knobs.

(4) Install right remote mirror control attaching nut, if equipped.

INSTRUMENT CLUSTER

The instrument cluster assembly contains the following components (fig. 3C-26).

- Speedometer/Odometer
- Fuel Gauge
- Temperature Gauge
- Constant Voltage Regulator (CVR)
- Gear Selector Dial (Automatic Transmission)
- Turn Signal Indicator Lamps
- Low Oil Pressure Warning Lamp
- Brake System/Parking Brake Warning Lamp
- Seat Belt Warning Lamp
- High Beam Indicator

For service and diagnosis information on above items not covered, refer to Chapter 1J—Power Plant Instrumentation, Volume One—Power Plant.

Instrument Cluster Indicators

Refer to figure 3C-27.

Instrument Illumination

The headlamp switch must be pulled in to the first or second position before the instrument lamps will light. Brightness is controlled by rotating the switch knob. Turning the knob counterclockwise brightens the light. Turning the knob to the extreme counterclockwise position completes the ground circuit for the courtesy lamp and turns the lamps on.

High Beam Indicator

This indicator is connected to the high beam circuit in the headlamp dimmer switch. When the high beam element is energized in the headlamps, a blue indicator receives current from the dimmer switch and lights on the instrument cluster (fig. 3C-27). The bulb grounds through the cluster ground wire.

Alternator Warning Indicator

A light is used to indicate alternator operation. When the output of the alternator is below battery voltage, a red indicator marked ALT is seen on the instrument cluster. When the alternator output is above battery voltage, other factors (wiring, voltage regulator, etc.) being normal, the indicator light is off.

Low Oil Pressure Indicator

The low oil pressure indicator is wired in series with the oil pressure sending unit on the engine block. The sending unit contains a diaphragm, spring, linkage and electrical contacts. When the ignition switch is in the ON position, the indicator circuit is energized and the circuit is completed to ground through the closed contacts in the sending unit. Upon starting the engine, oil pressure compresses the diaphragm and opens the contact points, opening the circuit to the indicator light. The contacts close when oil pressure drops to 3 to 5 psi (1.4-2.3 kg).

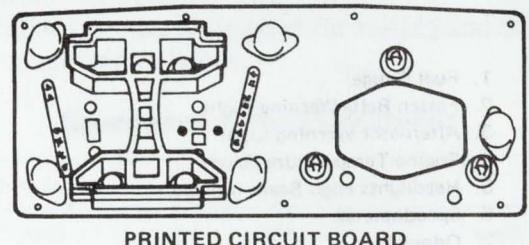
Brake Warning System Indicator

A warning light is incorporated in the hydraulic brake system to indicate when a difference of pressure between the front and rear braking system occurs. A pressure differential of 70 to 300 psi (31.5-135.0 kg) is required to operate the switch.

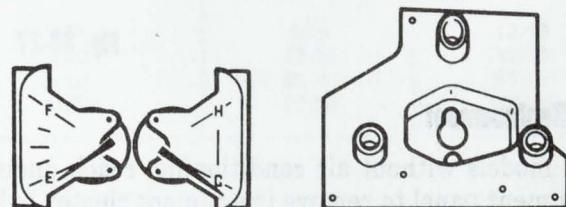
The warning bulb is checked at the time the engine is started. The bulb grounds through the ignition switch ground when the switch is in the START position, and it should light indicating the bulb is good. The bulb ground circuit must pass through the brake differential pressure switch before grounding at the ignition switch. If the brake system fails, the differential pressure grounds the bulb circuit and the lamp will light, indicating a brake failure.

Parking Brake Warning Indicator

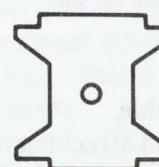
The circuit is wired to a switch at the parking brake and the same lamp as the brake warning system. When the ignition switch is in the ON position and the parking brake is applied, the lamp lights. Current passes from the ignition switch through the brake warning system circuit and on to the cluster lamp. The lamp lights when the parking brake is applied, completing the circuit through the parking brake switch to ground at the lever assembly.



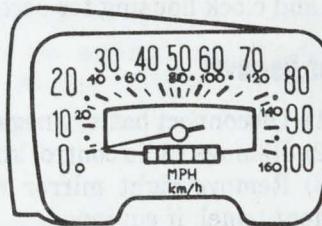
PRINTED CIRCUIT BOARD



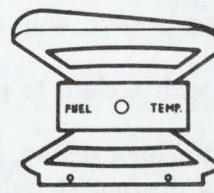
FUEL AND TEMPERATURE GAUGES



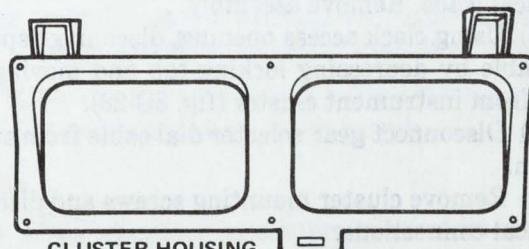
INDICATOR BULB LENS



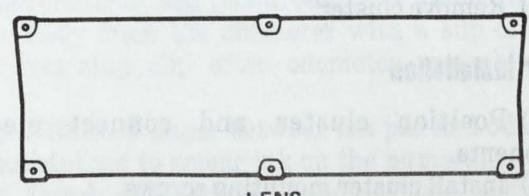
SPEEDOMETER



GEAR SELECTOR
DIAL
(AUTO. TRANS)



CLUSTER HOUSING



LENS

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Fig. 3C-26 Instrument Cluster—Exploded View

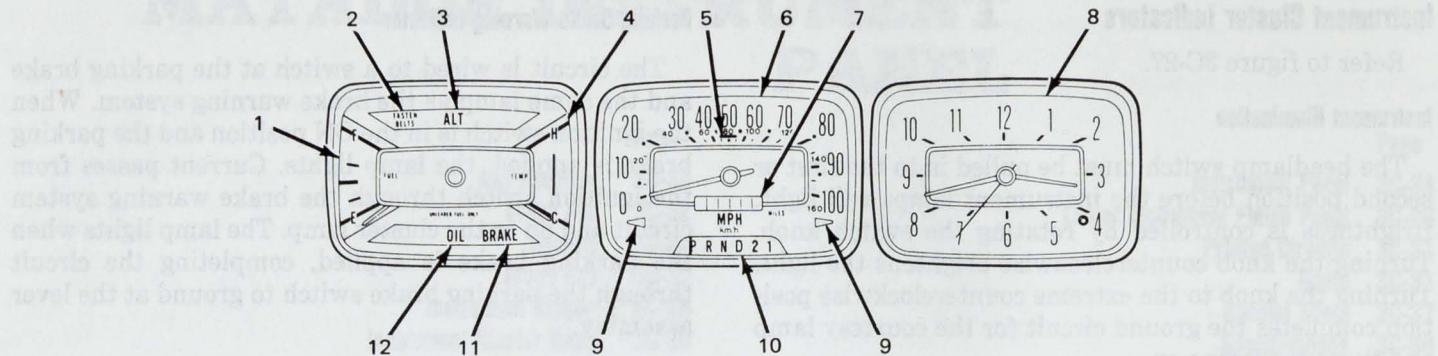


Fig. 3C-27 Instrument Cluster Indicators

Bulb Replacement

On models without air conditioning, reach under the instrument panel to remove instrument cluster bulbs.

On models with air conditioning, remove the cluster bezel and clock housing for access to the bulbs.

Cluster Removal

- (1) Disconnect battery negative cable.
- (2) Remove radio control knobs and attaching nuts.
- (3) Remove right mirror remote control from instrument panel, if equipped.
- (4) Remove bezel attaching screws and remove bezel.
- (5) Cover steering column with a cloth to prevent scratching column.
- (6) Remove clock housing attaching screws, pull assembly away from cluster, and disconnect bulbs and electrical leads. Remove assembly.
- (7) Using clock access opening, disconnect speedometer cable by depressing locking tab and moving cable away from instrument cluster (fig. 3C-28).
- (8) Disconnect gear selector dial cable from steering column.
- (9) Remove cluster mounting screws and disconnect electrical connections.
- (10) Remove cluster.

Cluster Installation

- (1) Position cluster and connect electrical components.
- (2) Install cluster mounting screws.
- (3) Connect gear selector dial cable.
- (4) Connect speedometer cable.

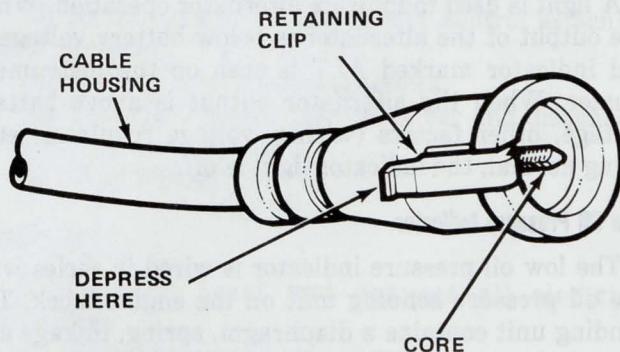


Fig. 3C-28 Disconnecting Speedometer Cable

- (5) Connect clock electrical connector and install bulbs and clock (or cover).
- (6) Install instrument cluster bezel.
- (7) Install right mirror remote control, if removed.
- (8) Install radio attaching nuts and control knobs.
- (9) Connect battery negative cable.
- (10) Reset clock, if equipped.

Gear Selector Dial Replacement—Cluster Removed

- (1) Remove printed circuit board and attaching hardware (fig. 3C-26).
- (2) Lift speedometer housing out of cluster and remove gear selector dial attaching screws.
- (3) Remove gear selector dial (fig. 3C-29).
- (4) Attach gear selector dial to speedometer housing.
- (5) Position speedometer housing in cluster.

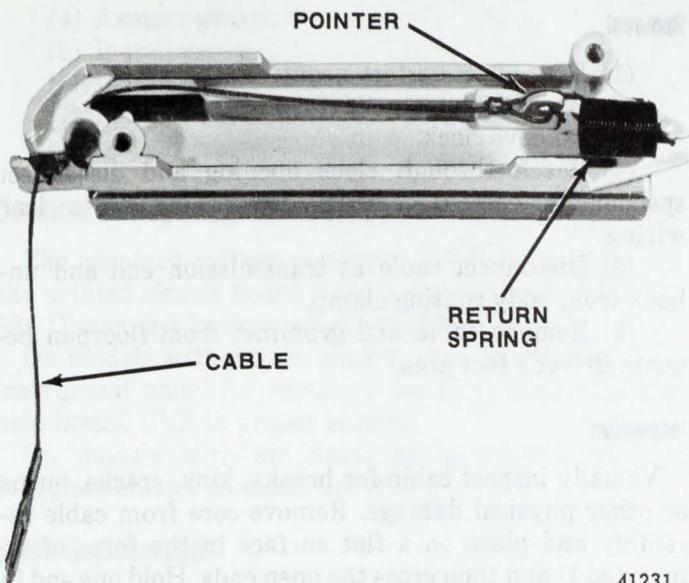


Fig. 3C-29 Gear Selector Dial—Rear View

(6) Install printed circuit board and attaching hardware.

NOTE: Following replacement, the adjustable clip on the steering column should be adjusted so that the pointer is centered over the N when in neutral (fig. 3C-30). This adjustment requires removal of the lower instrument finish panel.

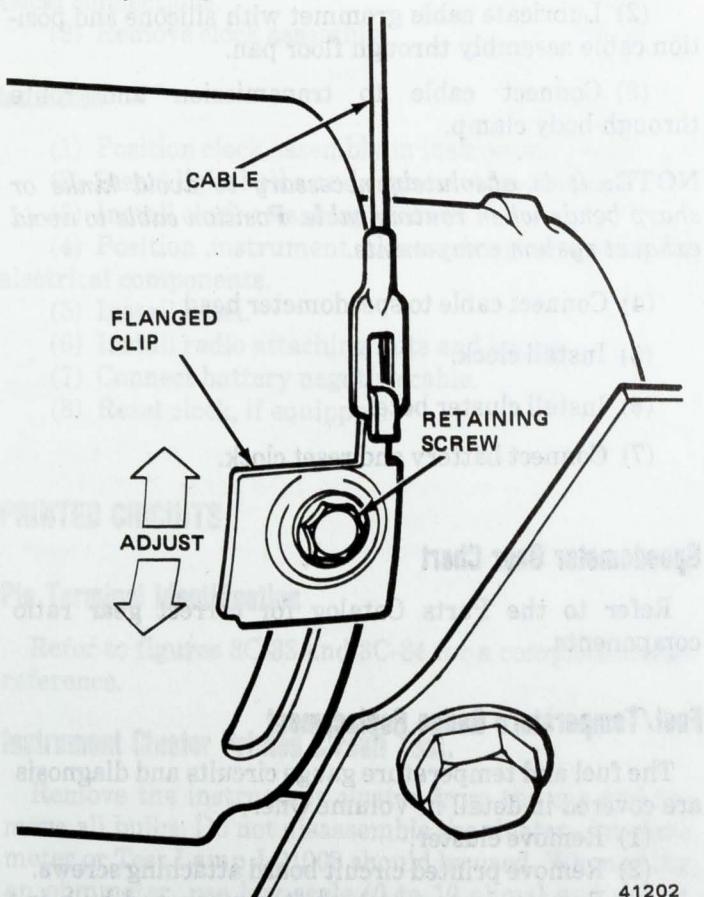


Fig. 3C-30 Cable Adjustment

Speedometer

Introl magnetic-type speedometers are used on Matador.

The speedometer equipped with an anti-tamper device, which utilizes an ink marking on the extreme left digit counter. The marking appears on the number 9 digit of the counter, from the time the odometer is manufactured. The maximum amount that could be rolled back without the ink mark showing is 9999.9. Under normal operation, the ink mark will not show until the speedometer reaches 90,000.

The following data is supplied for testing and calibrating the speedometer heads.

Speedometer Head Calibration

Shaft Speed RPM	Indication	
	MPH	km/h
167	8-12	13-19
500	30-33	48-53
1000	60-63	96-101
1500	90-94	144-151

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Speedometer Head Replacement—Cluster Removed

Speedometer head replacement includes resetting the replacement odometer to the same mileage as the one removed, unless such setting conflicts with local ordinances.

Removal

- (1) Remove printed circuit board.
- (2) Remove speedometer head and dial assembly from mounting plate (fig. 3C-26).
- (3) On the replacement speedometer/odometer assembly, hold marking pad away from replacement odometer with a piece of paper (fig. 3C-31).

(4) Pry retaining clip away from bracket, lift out odometer assembly at clip end and set odometer ahead to proper mileage. Refer to Odometer Setting Procedure.

CAUTION: Do not attempt to wipe off ink mark. Be careful not to smear ink on the numerals.

Installation

- (1) Align odometer separators to straddle speedometer head crossbar, and install odometer assembly, keeping ink away from the odometer with a slip of paper. Install retaining clip after odometer assembly is in place.
- (2) Withdraw paper between ink pad and odometer, being careful not to smear ink on the numerals.
- (3) Attach speedometer head to plate and secure with screws.
- (4) Install printed circuit board.

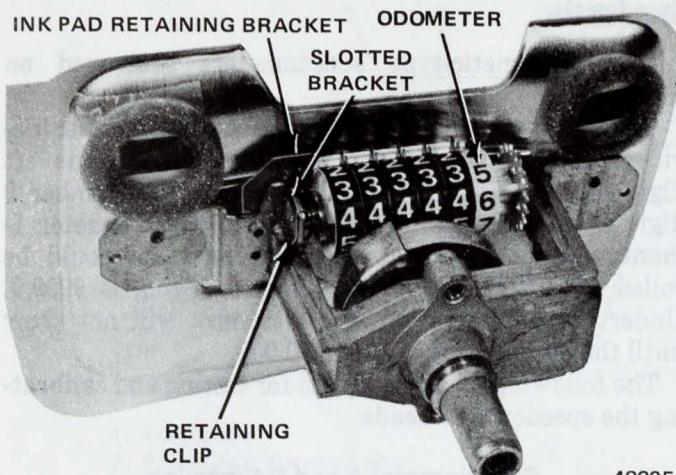


Fig. 3C-31 Removing or Replacing Odometer

Odometer Setting Procedure

This procedure applies to all models with the odometer removed from the speedometer head unless such setting conflicts with local ordinances.

Refer to figure 3C-32 for parts identification.

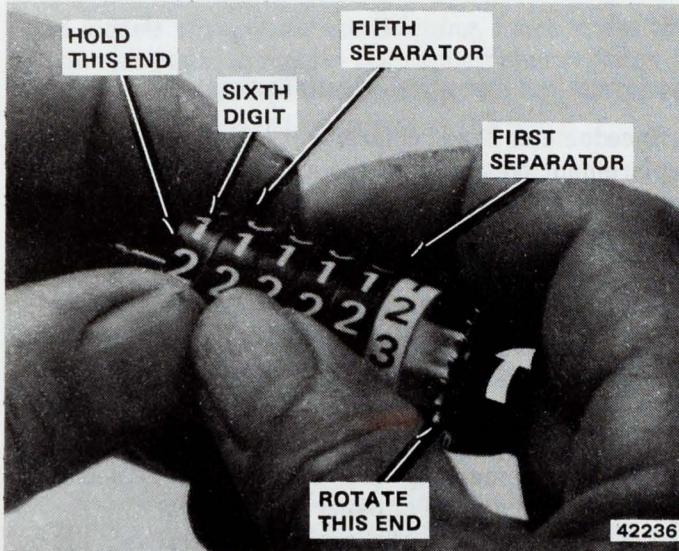


Fig. 3C-32 Advancing Odometer Reading (For Replacement Only)

- (1) Hold fifth separator as shown in figure 3C-31.
- (2) Rotate first five numerals (five on the right side), in their normal direction until the desired sixth digit is obtained.
- (3) When the desired sixth digit is obtained, align the fourth separator with the fifth separator.
- (4) Rotate the first four numerals (four on right) repeating the process until the desired fifth digit is obtained. Repeat the process with the remaining digits to indicate desired mileage.

Speedometer Cable

When working on the speedometer, always inspect speedometer cable and core for kinks or sharp bends.

Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster bezel.
- (3) Remove clock.
- (4) Reach through clock opening and disconnect speedometer cable (fig. 3C-28). Move cable end to clear wiring.
- (5) Disconnect cable at transmission end and unhook from body routing clamp.
- (6) Remove cable and grommet from floorpan beneath driver's feet area.

Inspection

Visually inspect cable for breaks, kink, cracks, burns or other physical damage. Remove core from cable assembly and place on a flat surface in the form of an inverted U and then cross the open ends. Hold one end in the left hand, the other in the right hand. Twist one end, applying light finger pressure to the other end. If the core is satisfactory, the turning action will be smooth. A damaged core will react by jumping about on flat surface.

Lubrication and Installation

- (1) Lubricate core with AMC Brake Support Plate Lubricate or a multi-purpose moly grease and assemble.
- (2) Lubricate cable grommet with silicone and position cable assembly through floor pan.
- (3) Connect cable to transmission and route through body clamp.

NOTE: It is absolutely necessary to avoid kinks or sharp bends when routing cable. Position cable to avoid exhaust system components.

- (4) Connect cable to speedometer head.
- (5) Install clock.
- (6) Install cluster bezel.
- (7) Connect battery and reset clock.

Speedometer Gear Chart

Refer to the Parts Catalog for correct gear ratio components.

Fuel/Temperature Gauge Replacement

The fuel and temperature gauge circuits and diagnosis are covered in detail in Volume One.

- (1) Remove cluster.
- (2) Remove printed circuit board attaching screws.
- (3) Remove instrument cluster mask and bulb indicator lens (fig. 3C-26).

- (4) Remove gauge.
- (5) Install gauge.
- (6) Install cluster lens and mask.
- (7) Install circuit board.
- (8) Install cluster.

Constant Voltage Regulator (CVR) Replacement

The constant voltage regulator (CVR) is connected to the printed circuit board with 3 plug-in prongs (fig. 3C-32). Disconnect battery when servicing the CVR.

On models without air conditioning, reach under the instrument panel for access to the CVR. Use a light to help install CVR in proper sockets.

On models with air conditioning, remove the instrument cluster to reach the CVR.

Clock Replacement

- (1) Disconnect battery negative cable.
 - (a) Remove radio control knobs and nuts.
 - (b) Remove bezel attaching screws.
 - (c) Tilt bezel forward and disconnect electrical connections.
 - (d) Remove instrument cluster bezel.
 - (2) Move clock forward and remove bulbs and electrical connections.
 - (3) Remove clock assembly.

Installation

- (1) Position clock assembly in instrument panel.
- (2) Insert light bulbs and connect wire harness.
- (3) Install clock attaching screws.
- (4) Position instrument cluster bezel and connect electrical components.
- (5) Install bezel.
- (6) Install radio attaching nuts and knobs.
- (7) Connect battery negative cable.
- (8) Reset clock, if equipped.

PRINTED CIRCUITS

Pin Terminal Identification

Refer to figures 3C-33 and 3C-34 for a complete cross-reference.

Instrument Cluster Printed Circuit Test.

Remove the instrument cluster from the car and remove all bulbs. Do not disassemble the cluster. An ohmmeter or Test Lamp J-21008 should be used. When using an ohmmeter, use low scale (0 to 10 ohms) and adjust meter to zero reading.

NOTE: Refer to figures 3C-33 through 3C-34 for pin terminal identification.

Connect a test lamp or ohmmeter lead to the correct pin plug terminal for the circuit to be tested. Follow each circuit from the pin to each uncoated position up to the bulb or indicator in that circuit. The test lamp should light or the ohmmeter should read zero ohms resistance at these positions.

Check all uncoated positions on the opposite side of the bulb or indicator circuit. The circuit must go to either a pin terminal or a grounding screw.

The test lamp should light or the ohmmeter should read zero ohms.

Connect the test lamp or ohmmeter lead to the ground pin terminal and the other lead to the cluster metal case. The test lamp should light or the ohmmeter should read zero ohms. When the lamp fails to light or the ohmmeter indicates resistance on any of the tests, replace the printed circuit.

Check for shorting between circuits. With a lead connected to the correct pin for the circuit to be tested, move the other lead to all other pin terminals in the cluster. The lamp should not light or the ohmmeter should indicate infinite resistance between circuits.

Printed Circuit Board

Removal Refer to Fig. 3C-26

- (1) Remove instrument cluster.
- (2) Remove all bulbs. Twist counterclockwise to remove.
- (3) Remove radio noise suppressor and constant voltage regulator (CVR).
- (4) Remove circuit board attaching screws.
- (5) Remove mask (four screws) and lens (bulb indicator).
- (6) Remove gauges.
- (7) Remove printed circuit board.

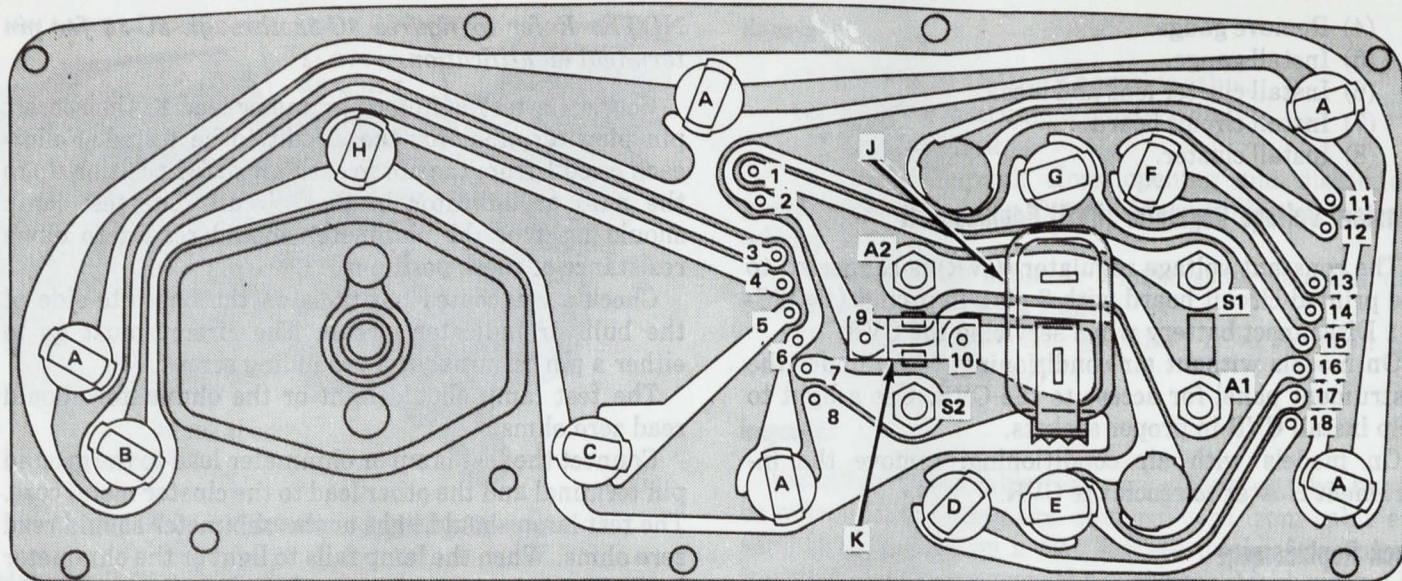
Installation

- (1) Install gauges.
- (2) Install lens.
- (3) Install mask.
- (4) Install printed circuit board and attaching screws.
- (5) Install radio noise suppressor and CVR.
- (6) Install bulbs.

RADIO

Removal

- (1) Disconnect battery negative cable.
- (2) Remove radio knobs and nuts.
- (3) Remove instrument cluster bezel.

**PIN TERMINALS**

1. FUEL GAUGE SENDER
2. CLUSTER IGNITION FEED
3. RIGHT TURN
4. HIGH BEAM
5. LEFT TURN
6. ILLUMINATION
7. TEMPERATURE GAUGE SENDER
8. CLUSTER GROUND
9. IGNITION FEED SIDE OF RADIO SUPPRESSION
10. RADIO SUPPRESSION FEED TO GAUGES
11. NOT USED
12. NOT USED
13. FASTEN BELTS
14. FASTEN BELTS
15. ALTERNATOR
16. NOT USED
17. OIL PRESSURE SENDER
18. BRAKE

BULBS

- A ILLUMINATION
- B RIGHT TURN INDICATOR
- C LEFT TURN INDICATOR
- D BRAKE INDICATOR
- E OIL PRESSURE INDICATOR
- F FASTEN BELTS INDICATOR
- G ALTERNATOR INDICATOR
- H HIGH BEAM INDICATOR

OTHER

- A1 FUEL GAUGE FEED TERMINAL
- S1 FUEL GAUGE SENDER TERMINAL
- A2 TEMPERATURE GAUGE FEED TERMINAL
- S2 TEMPERATURE GAUGE SENDER TERMINAL
- J CONSTANT VOLTAGE REGULATOR (CVR)
- K RADIO SUPPRESSION CHOKE (CONNECTOR STRIP IF NOT EQUIPPED WITH RADIO)

Fig. 3C-33 Instrument Cluster—Rear View

- (4) Loosen upper radio attaching screw. Lift rear of radio to disengage bracket from screw, and remove radio.
- (5) Disconnect antenna, speaker(s), and power lead.

Installation

- (1) Connect speaker(s), power lead and antenna and position radio bracket over rear retaining screw.
- (2) Install instrument cluster bezel.
- (3) Install radio attaching nuts and knobs.
- (4) Connect battery negative cable.

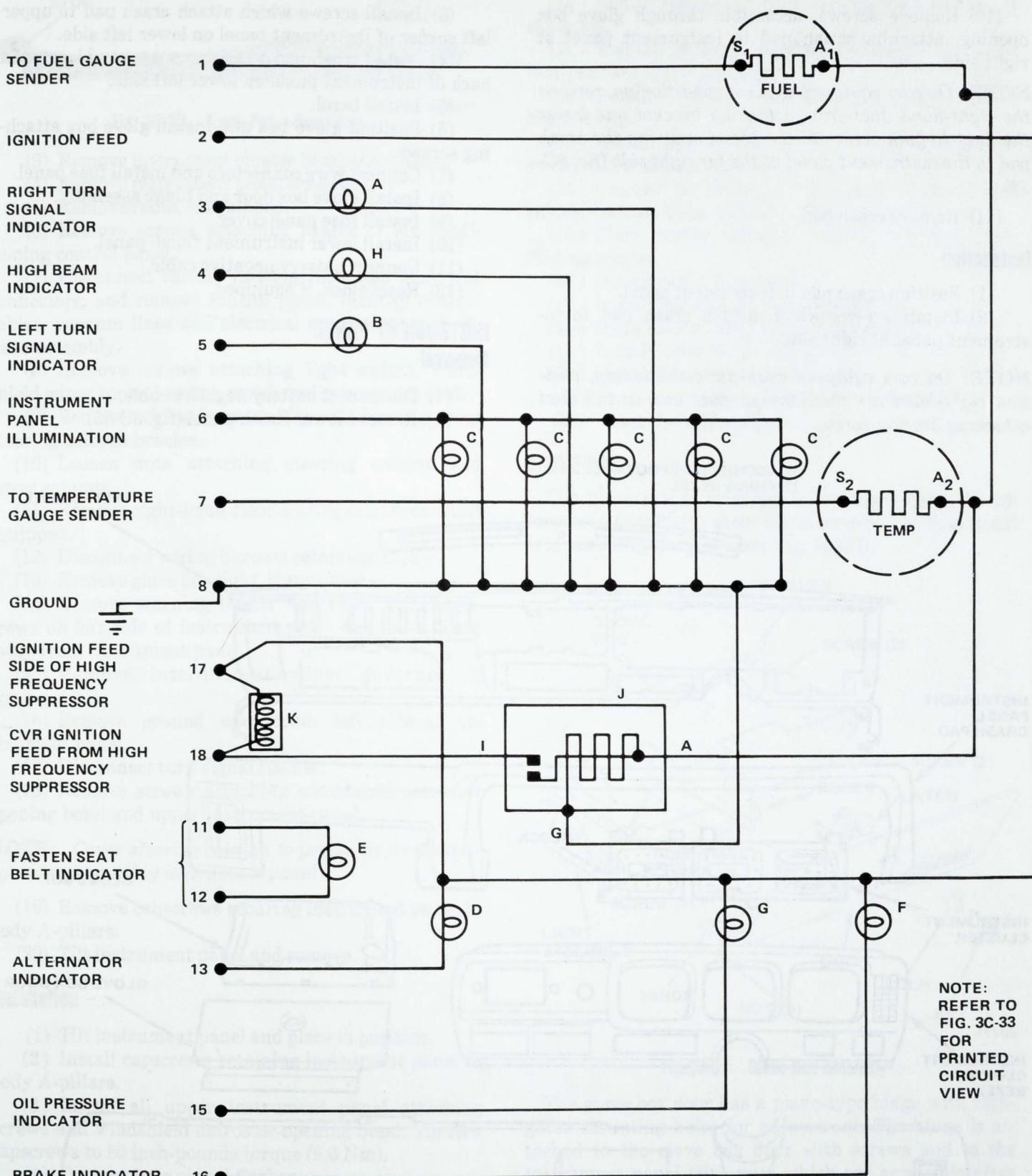
CRASH PAD**Removal**

- (1) Disconnect battery negative cable.
- (2) Remove lower instrument finish panel (fig. 3C-35).

- (3) Remove fuse panel cover.
- (4) Remove nuts attaching glove box door hinge, and remove door hinge assembly.
- (5) Remove screws attaching fuse panel and disconnect wire connectors from fuse panel. Identify connectors to facilitate assembly.
- (6) Remove screws attaching glove box and remove glove box.

NOTE: Pull glove box out through instrument panel front opening.

- (7) Remove instrument cluster bezel.
- (8) Remove crash pad attaching nut from stud located on back of instrument panel on lower left side (fig. 3C-36).
- (9) Remove upper left screws attaching crash pad to instrument panel.



NOTE:
REFER TO
FIG. 3C-33
FOR
PRINTED
CIRCUIT
VIEW

Fig. 3C-34 Instrument Cluster Circuitry

(10) Remove screws, accessible through glove box opening, attaching crash pad to instrument panel at right side.

NOTE: On cars equipped with air conditioning, remove the right-hand duct from attaching bracket and lower the duct to gain access to the screw securing the crash pad to the instrument panel at the far right side (fig. 3C-35).

(11) Remove crash pad.

Installation

(1) Position crash pad in instrument panel.

(2) Install screws which attach crash pad to instrument panel at right side.

NOTE: On cars equipped with air conditioning, position right-hand air conditioning duct and install duct attaching bracket screw.

(3) Install screws which attach crash pad to upper left corner of instrument panel on lower left side.

(4) Install crash pad attaching nut to stud located in back of instrument panel on lower left side.

(5) Install bezel.

(6) Position glove box and install glove box attaching screws.

(7) Connect wire connectors and install fuse panel.

(8) Install glove box door and hinge assembly.

(9) Install fuse panel cover.

(10) Install lower instrument finish panel.

(11) Connect battery negative cable.

(12) Reset clock, if equipped.

INSTRUMENT PANEL

Removal

(1) Disconnect battery negative cable.

(2) Remove lower finish panel (fig. 3C-35).

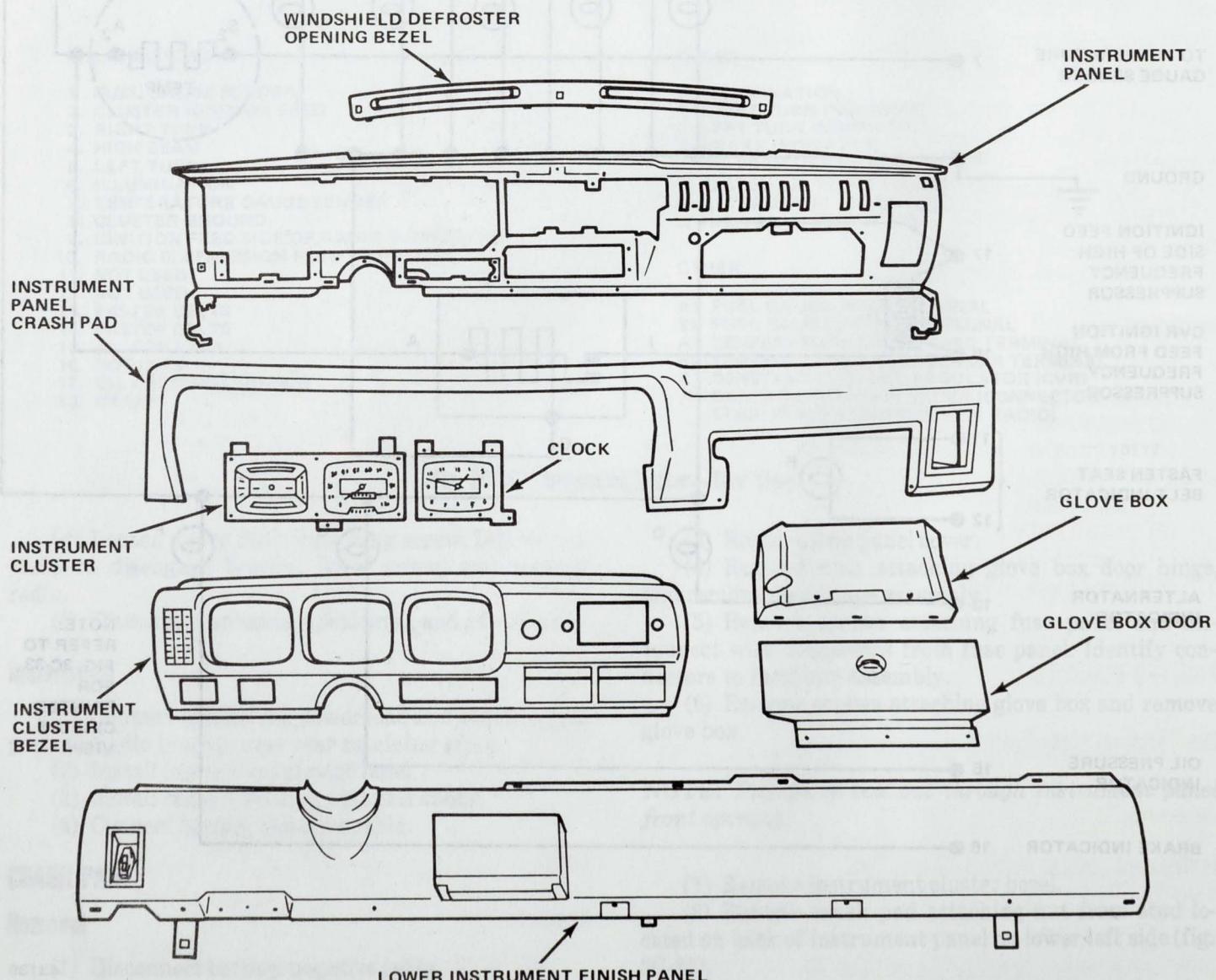


Fig. 3C-35 Instrument Panel and Components

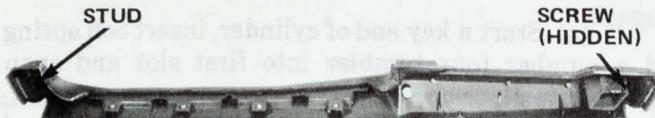


Fig. 3C-36 Crash Pad—Rear View

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- (3) Remove instrument cluster bezel and cluster.
- (4) Remove instrument panel crash pad.
- (5) Remove radio, if equipped.
- (6) Remove screws attaching heater or air conditioning control panel.

(7) Disconnect cables, vacuum lines and electrical connectors, and remove control panel. Identify control cables, vacuum lines and electrical connectors to facilitate assembly.

(8) Remove screws attaching light switch, windshield wiper control switch panel, and move panel aside.

(9) Remove wiring harness clip and harness from steering column bracket.

(10) Loosen nuts attaching steering column and lower column.

(11) Remove right-hand floor cooling duct bracket, if equipped.

(12) Disconnect wiring harness retaining clips.

(13) Remove glove box light, if equipped.

(14) Remove warning buzzer and relay attaching-screws on left side of instrument panel and move them away from instrument panel.

(15) Remove intermittent wiper governor, if equipped.

(16) Remove ground wire from left side of instrument panel.

(17) Disconnect turn signal flasher.

(18) Remove screws attaching windshield defroster opening bezel and upper instrument panel.

NOTE: Cover steering column to protect it from damage when removing instrument panel.

(19) Remove capscrews securing instrument panel to body A-pillars.

(20) Tilt instrument panel and remove.

Installation

- (1) Tilt instrument panel and place in position.
- (2) Install capscrews retaining instrument panel to body A-pillars.
- (3) Install all upper instrument panel attaching screws and windshield defroster opening bezel. Tighten capscrews to 80 inch-pounds torque (9.0 Nm).
- (4) Connect turn signal flasher.
- (5) Install left instrument panel ground wire.
- (6) Install intermittent wiper governor, if equipped.
- (7) Install warning buzzer and relay attaching screws.
- (8) Install glove box light.
- (9) Connect wiring harness retaining clips.

(10) Install right-hand floor cooling duct bracket, if equipped.

(11) Tighten steering column attaching nuts to 10 foot-pounds (13.6 Nm) torque.

(12) Install wiring harness-to-steering column bracket clip.

(13) Install light switch and windshield wiper control switch panel attaching screws.

(14) Connect all heater and air conditioning control cables, vacuum lines and electrical connectors.

(15) Place control panel in position and install attaching screws.

(16) Install radio, if equipped.

(17) Install instrument panel crash pad.

(18) Install instrument cluster and bezel.

(19) Install lower finish panel.

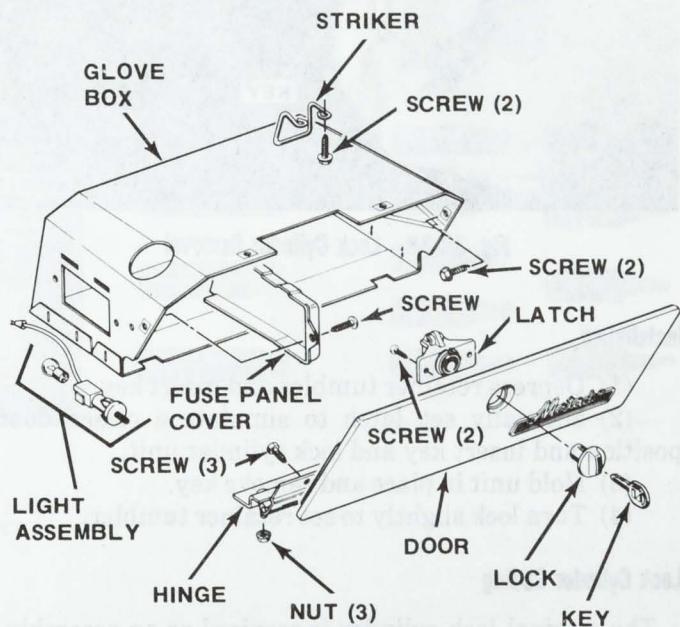
(20) Connect battery negative cable.

(21) Remove steering column protective cover.

(22) Reset clock, if equipped.

GLOVE BOX

The glove box is attached to the opening in the instrument panel with sheet metal screws. The fuse panel is mounted in the glove box (fig. 3C-37).



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Fig. 3C-37 Glove Box Assembly

The glove box door has a piano-type hinge with elongated mounting holes for adjustment. The hinge is attached to the glove box door with screws and to the instrument panel with nuts which are accessible after removing the lower instrument finish panel (fig. 3C-37).

Glove Box Striker

The glove box striker is attached to the instrument panel opening with sheet metal screws (fig 3C-37). The striker can be moved in or out for adjustment.

Lock and Latch Assembly

The glove box lock and latch assembly is mounted at the center and upper edge of the glove box door.

Removal

- (1) Open glove box door, insert key in lock and turn lock counterclockwise to lock position.
- (2) Remove key.
- (3) Apply pressure to retainer tumbler with a stiff wire and insert key (fig. 3C-38).
- (4) Remove lock cylinder and key as a unit.

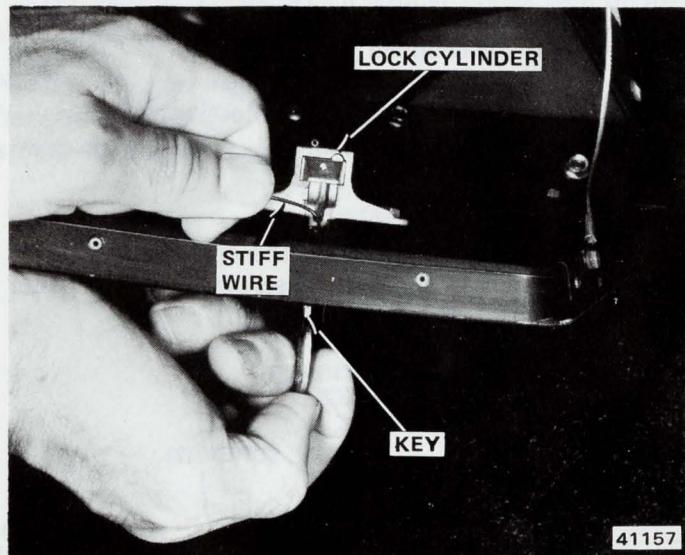


Fig. 3C-38 Lock Cylinder Removal

Installation

- (1) Depress retainer tumbler and insert key.
- (2) Manually set latch to simulate a closed door position and insert key and lock cylinder unit.
- (3) Hold unit in place and remove key.
- (4) Turn lock slightly to set retainer tumbler.

Lock Cylinder Coding

The original lock cylinder is serviced as an assembly. If necessary to repair or replace the lock cylinder assembly, a replacement cylinder, individually coded tumblers (numbers one through five) and coil springs are available through the AMC Distribution Centers. Tumblers which are not marked are number 1.

When replacing a lock cylinder, the replacement cylinder can be coded to match the existing key as follows:

- (1) Obtain key code and corresponding five-digit bitting number.
- (2) Remove cylinder lock assembly from glove box door.
- (3) Code new cylinder to the existing key bitting number (example: 42135).

(a) Start a key end of cylinder, insert coil spring and a number four tumbler into first slot and snap tumbler into place.

(b) Insert a number two tumbler into second slot and a number one tumbler (which is brass) into third slot.

(c) Insert a number three tumbler into fourth slot and a number five tumbler into fifth slot.

NOTE: *Tumblers snap into position with slight pressure.*

(4) Insert key into cylinder with all tumblers flush with cylinder.

(5) Install cylinder into housing.

Latch Replacement

Remove lock cylinder. Remove latch-to-glove box door mounting screws and remove latch. To install, place latch in position and install mounting screws (fig. 3C-37).

Lubrication

To lubricate the glove box latch and striker, apply a thin coat of lubriplate or equivalent to the latch and striker.

ASH RECEIVER

The drawer-type ash receiver is held in place by a retainer which is mounted to the lower instrument finish panel. The retainer is fastened at the front and at the sides of the opening with sheet metal screws.

SPECIFICATIONS

Electrical Specifications

Bulb Chart

Number of Bulbs/ Bulb Trade Number

Instrument Cluster

Cluster Illumination	5/158
Alternator Warning Lamp	1/158
Oil Pressure Warning Lamp	1/158
Brake System Warning Lamp	1/158
Seat Belt Warning Lamp	1/158
Headlights High Beam Indicator Lamp	1/158
Turn Signal Indicator Lamps	2/158
Clock	3/1895

Instrument Panel Illumination

Ashtray	1/1445
Glove Box	1/1891
Heater-AC Control Panel	1/1891
Headlamp/Wiper-Washer Switches	1/1445
Radio	1/1893
CB Radios (no replacement)	

Torque Specifications

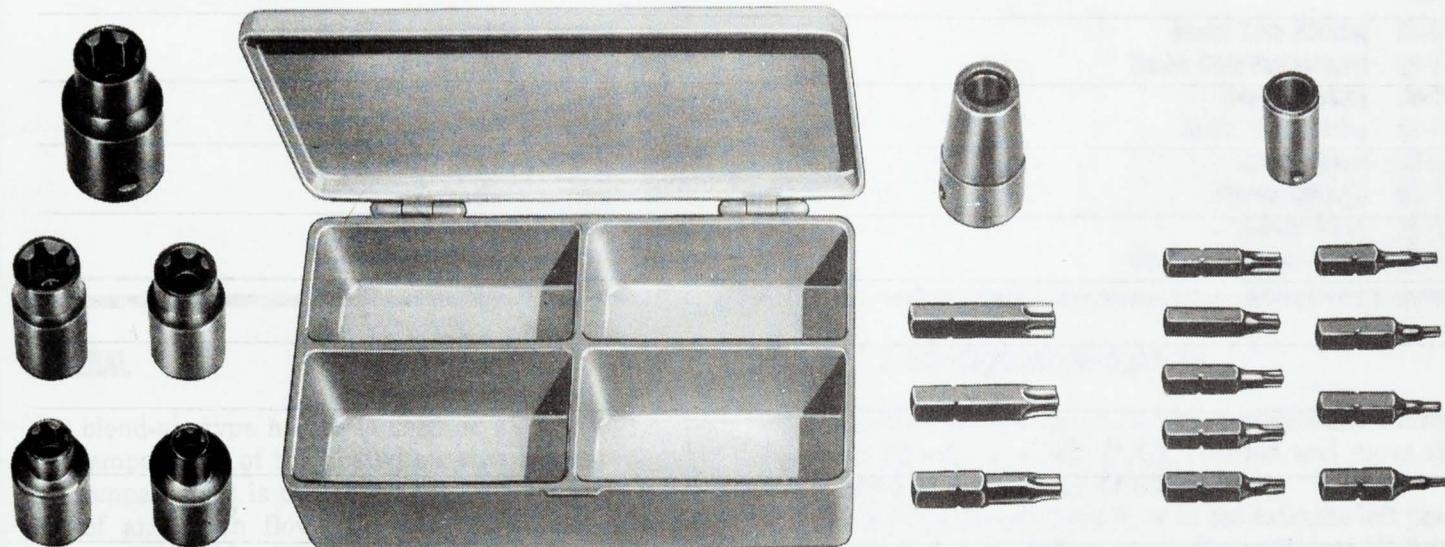
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)	
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque
Inside Hood Release Cable Bracket to Instrument Panel	5	3-6	40
Instrument Panel to Front Pillar	9	7-11	78
Parking Brake to Dash Panel	14 min.	14 min.	120 min.
Steering Column Bracket to Sled Nuts	14	11-18	10 ft-lbs. 8-13 ft-lbs.

All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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Special Tools



J-25359-02
TORX BIT AND
SOCKET SET

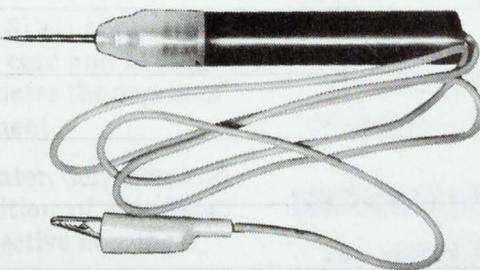
When service a tool marking key to Service Diagnostic Guide for a list of recommended service procedures.

HEATER CONTROLS

The temperature control lever (fig. 3D-1) regulates the amount of airflow around the heater core passages. This regulates heat entering the passenger compartment.

The mode control lever regulates heat vent operation by changing the position of the defroster and vent doors in their respective ducts.

The fan control is a four-position control (LOW, MEDIUM and HIGH) which regulates the motor (fig. 3D-2) and airflow for heating, defrosting and providing fresh air ventilation.



J-21008
CONTINUITY
LIGHT

Move the temperature control lever to the HIGH position and move the mode control lever to the DRY position and move the fan control to the three (3) position.

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NOTES

3D

HEATER

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Matador	3D-17		
		Pacer	3D-1

PACER HEATER

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Blower Motor Resistor	3D-9	Heater Core Replacement	3D-7
Control Panel	3D-4	Heater Housing	3D-6
Defroster Duct	3D-9	Heater Water Valve	3D-10
Door Cable Adjustment	3D-5	Special Tools	3D-11
Fresh Air Ventilation	3D-1	System Controls	3D-1
General	3D-1	Vacuum Hoses	3D-9
Heater and Defroster Operation	3D-1	Vent Door Vacuum Motor	3D-9

GENERAL

A blend-air type heater is used on all Pacer models. The temperature of the heated air entering the passenger compartment is controlled by regulating the quantity of air which flows through the heater core air passages, then blending it with a controlled amount of cool fresh air which bypasses the heater core.

When servicing a malfunctioning heater system, refer to Service Diagnosis Guide for a list of possible causes and recommended service procedures.

SYSTEM CONTROLS

The temperature control lever (fig. 3D-1) adjusts the amount of airflow around the heater core and through the heater core air passages. This regulates the degree of heat entering the passenger compartment.

The mode control lever regulates heater, defroster and vent operation by changing the position of the floor, defroster and vent doors in their respective housings.

The fan control is a four-position control switch (OFF, LOW, MEDIUM and HIGH) which regulates the blower motor (fig. 3D-2) and airflow for heating, defrosting, and providing fresh air ventilation.

FRESH AIR VENTILATION OPERATION

For unheated fresh air, move the temperature control lever to the extreme left COOL position and move the mode control lever to the VENT position.

The temperature control lever in the extreme left position closes the blend-air door. Refer to figure 3D-3 for airflow.

When the mode control lever is in the VENT position, the water valve is shut off and airflow is directed to the panel registers and partially to the floor area. Move the fan control lever to one of its three ON positions to provide the desired airflow. Refer to the Mode and Airflow Door Positions chart for vacuum motor and door positions.

To shut off fresh air ventilation, move the mode control lever and the fan control lever to the OFF positions.

HEATER AND DEFROSTER OPERATION

For heated fresh air, move the temperature control lever to the right (red area) and move the mode control lever to the HEAT, HI-LO or DEF position and move the fan control lever to one of its three ON positions to provide the desired airflow.

Service Diagnosis Guide

Condition	Possible Cause	Correction
INSUFFICIENT OR NO AIR DISCHARGE FROM HEATER FLOOR OUTLETS	(1) Floor door cable inoperative (2) Heater housing obstructed (3) Air inlet obstructed (4) Heater core air passages obstructed (5) Seals improperly aligned	(1) Adjust or replace control cable (2) Remove housing and clean (3) Remove heater housing. Check air inlet (4) Remove heater core and clean (5) Remove heater housing and replace and align seals
INSUFFICIENT OR NO AIR DISCHARGE FROM DEFROSTER OUTLETS — ONE OR BOTH SIDES	(1) Defroster duct misaligned on heater and defroster damper housing (2) Defroster door cable inoperative (3) Seals improperly aligned (4) Defroster duct obstructed	(1) Align defroster duct (2) Adjust or replace control cable (3) Remove heater and defroster damper housing and replace and align seals (4) Remove defroster duct and clean
AIR DISCHARGE FROM HEATER OR DEFROSTER OUTLETS WITH ALL CONTROLS OFF	(1) Door cables improperly adjusted (2) Door binding in housing	(1) Adjust cables (2) Remove heater and defroster damper housing and inspect doors
INSUFFICIENT OR NO AIR DISCHARGE FROM PANEL OUTLETS IN VENT MODE	(1) Air ducts or hoses misaligned or not connected (2) Panel door vacuum switch mal-adjusted or defective (3) Panel door vacuum motor defective or not connected (4) Vacuum hose assembly defective or not connected	(1) Align ducts or connect hoses as required (2) Adjust vacuum switch or replace as required (3) Replace vacuum motor or connect as required (4) Replace vacuum hose or connect as required
INSUFFICIENT HEAT FROM HEATER OUTLET WITH TEMPERATURE CONTROL LEVER FULL ON	(1) Insufficient coolant in radiator (2) Heater core plugged (3) Blend-air door cable improperly adjusted (4) Improper temperature range thermostat (5) Faulty thermostat (6) Air leaks	(1) Correct coolant level (2) Flush or replace heater core (3) Adjust cable (4) Replace thermostat with one of correct temperature range (5) Replace thermostat (6) Inspect vehicle and correct all leaks around cowl and door area

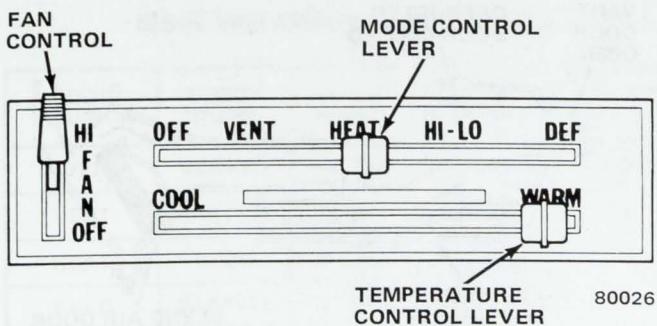


Fig. 3D-1 Control Panel

The temperature control lever, when moved to the right, opens the blend-air door. The blend-air door opens further as the lever is progressively moved to the right increasing the amount of heat. With the lever at the extreme right, the blend-air door closes off bypass air so that all outside air passes through the heater core. Refer to figure 3D-3 for airflow.

When the mode control lever is in the HEAT position, airflow is directed to the floor outlet (fig. 3D-3). Refer to the Mode and Airflow Door Positions chart for vacuum motor and door positions.

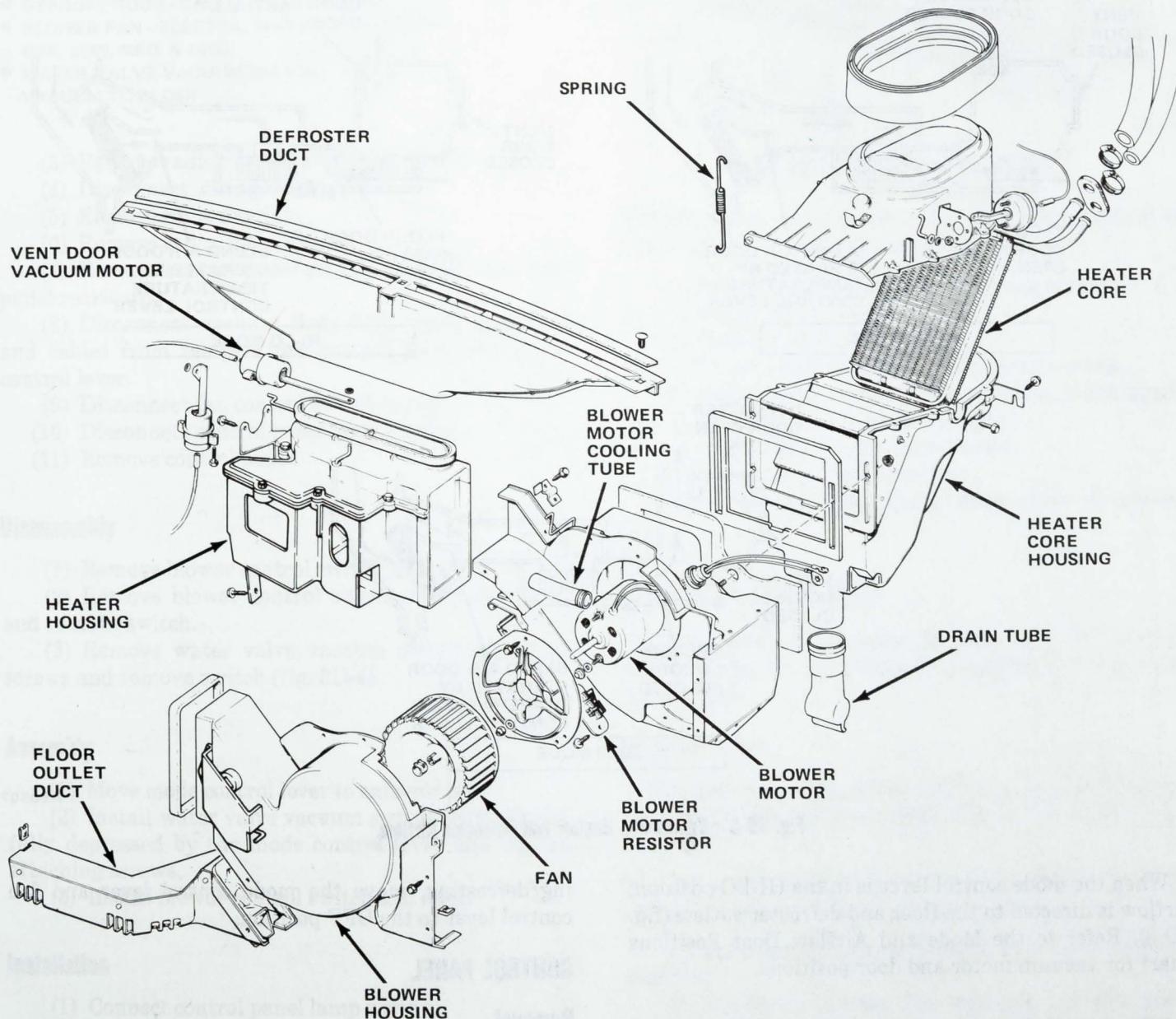


Fig. 3D-2 Heater Assembly

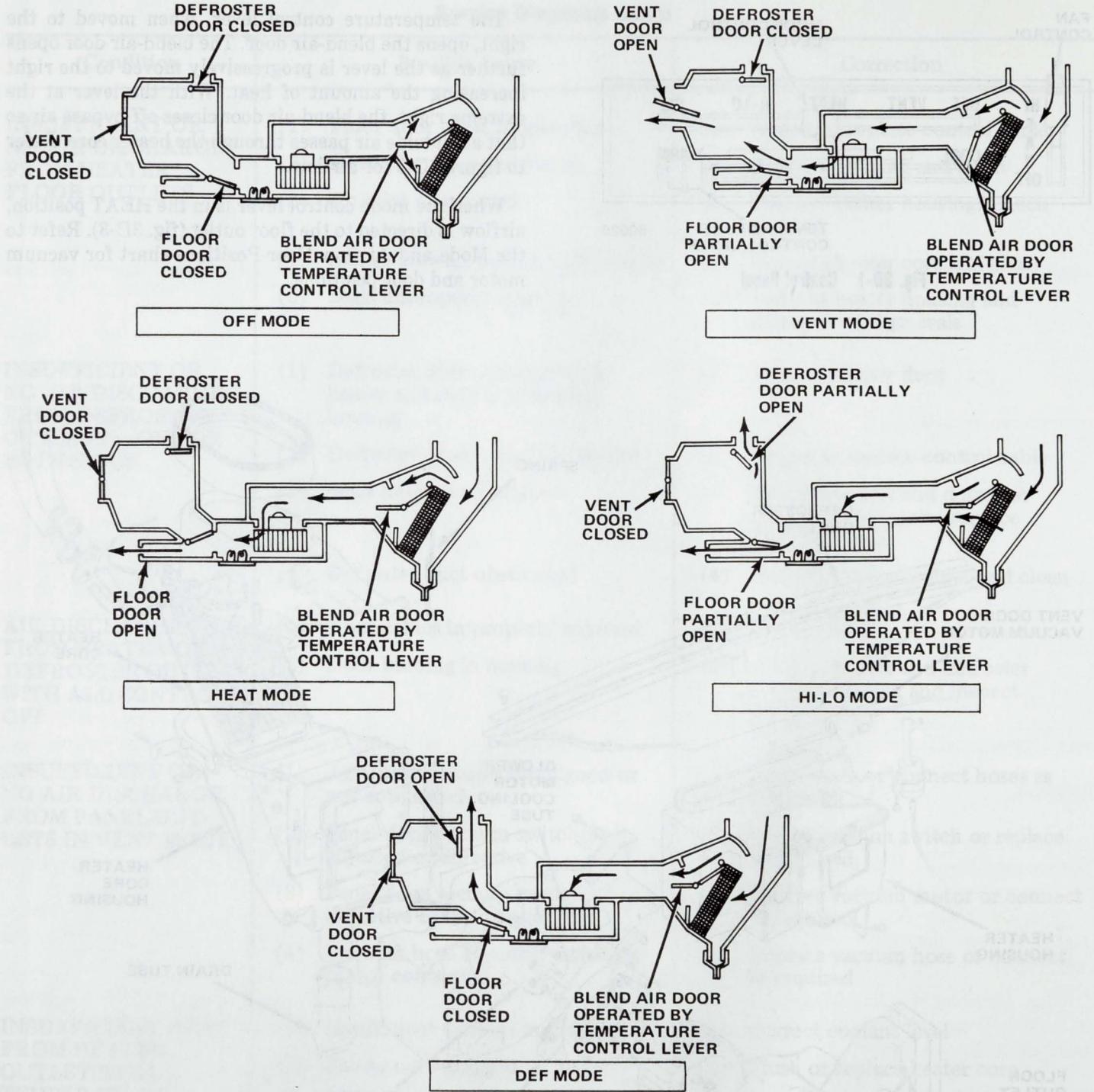


Fig. 3D-3 Ventilation, Heater, and Defroster Airflow

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When the mode control lever is in the HI-LO position, airflow is directed to the floor and defroster outlets (fig. 3D-3). Refer to the Mode and Airflow Door Positions chart for vacuum motor and door positions.

When the mode control lever is in the DEF position, airflow is directed to the defroster outlets (fig. 3D-3). Refer to the Mode and Airflow Door Positions chart for vacuum motor and door positions. To shut off heat-

ing/defrosting, move the mode control lever and fan control lever to the OFF position.

CONTROL PANEL

Removal

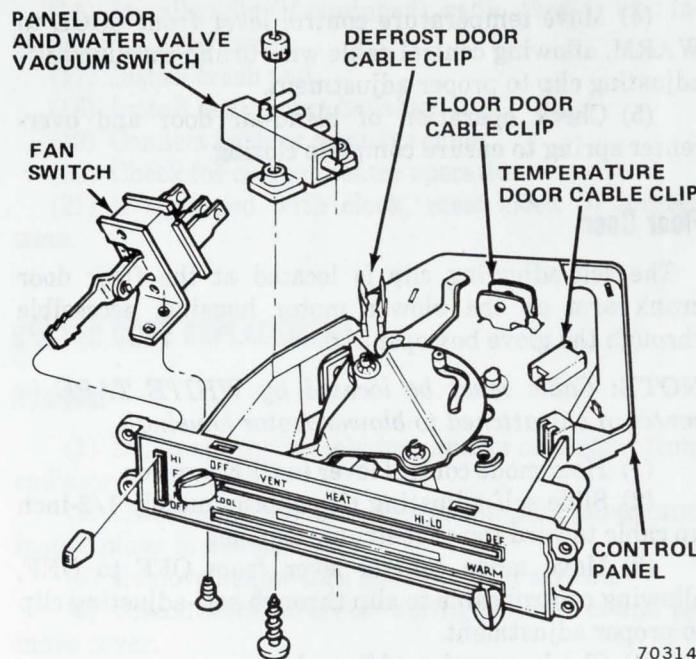
- (1) Disconnect battery negative cable.
- (2) Remove radio control knobs and attaching nuts, if equipped.

Mode and Airflow Door Positions

MODE POSITION	FLOOR DOOR	VENT DOOR	DEFRT. DOOR	WATER VALVE
OFF	CLOSED	CLOSED	CLOSED	CLOSED
VENT	PARTIAL	OPEN	CLOSED	CLOSED
HEAT	OPEN	CLOSED	CLOSED	OPEN
HI-LO	PARTIAL	CLOSED	PARTIAL	OPEN
DEFROST	CLOSED	CLOSED	OPEN	OPEN

- TEMPERATURE DOOR - CABLE - PULL FOR HEAT
- FLOOR DOOR - CABLE - PULL TO OPEN
- VENT DOOR - VACUUM SWITCH - VACUUM TO OPEN
- DEFROST DOOR - CABLE - PULL TO OPEN
- BLOWER FAN - ELECTRIC SWITCH - 4 POSITION
OFF, LOW, MED. & HIGH
- WATER VALVE-VACUUM SWITCH-
VACUUM TO CLOSE

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Fig. 3D-4 Control Panel Components

NOTE: Cables must be located by COLORED TAPE in center of clips attached to control panel.

- (4) Install control panel and attaching screws.
- (5) Install radio, if equipped.
- (6) Connect wiring.
- (7) Install radio overlay and attaching screws.
- (8) Install radio control knobs and nuts, if equipped.
- (9) Connect battery negative cable.
- (10) Install instrument cluster bezel.
- (11) Check for correct operation.
- (12) If equipped with clock, reset clock to correct time.

- (3) Remove radio overlay attaching screws.
- (4) Disconnect wiring, if necessary.
- (5) Remove radio overlay.
- (6) Remove radio, if equipped.
- (7) Remove control panel attaching screws and pull panel rearward.
- (8) Disconnect vacuum lines from vacuum switch and cables from temperature control lever and mode control lever.
- (9) Disconnect fan control switch wires.
- (10) Disconnect control panel lamp wiring.
- (11) Remove control panel.

Disassembly

- (1) Remove blower control switch knob.
- (2) Remove blower control switch attaching screw and remove switch.
- (3) Remove water valve vacuum switch attaching screws and remove switch (fig. 3D-4).

Assembly

- (1) Move mode control lever to extreme left.
- (2) Install water valve vacuum switch with plunger fully depressed by the mode control lever and tighten attaching screws.
- (3) Install blower control switch and knob.

Installation

- (1) Connect control panel lamp wiring.
- (2) Connect fan control switch wires.
- (3) Connect vacuum lines to water valve vacuum switch and cables to temperature control lever and mode control lever.

DOOR CABLE ADJUSTMENT

Proper cable adjustment is important for correct heater operation. All cables are equipped with self-adjusting clips.

Blend-Air Door

The clip is located, under the hood, at the blend-air door crank arm on the engine side of the heater core housing.

NOTE: Cable must be located by COLORED TAPE in center of clip attached to heater core housing.

- (1) Hold temperature control lever in far left COOL position.
- (2) Position blend-air door crank in full cool position (forward).
- (3) Slip self-adjusting clip, approximately 1/2-inch, along control cable wire, moving blend-air door crank arm toward front of car.

(4) Move temperature control lever from COOL to WARM, allowing control cable wire to slip through self-adjusting clip to proper adjustment.

(5) Check operation of blend-air door and over-center spring to ensure complete closing.

Floor Door

The self-adjusting clip is located at the floor door crank arm on the blower motor housing, accessible through the glove box opening.

NOTE: Cable must be located by WHITE TAPE in center of clip attached to blower motor housing.

(1) Hold mode control lever in OFF position.

(2) Slide self-adjusting clip approximately 1/2-inch up cable toward top of instrument panel.

(3) Move mode control lever from OFF to DEF, allowing control cable to slip through self-adjusting clip to proper adjustment.

(4) Check operation of floor door.

Defroster Door

The self-adjusting clip is located at the defroster door crank arm on the heater housing, under the instrument panel to the left of the heater control panel.

NOTE: Cable must be located by WHITE TAPE in center of clip attached to heater housing.

(1) Hold mode control lever in OFF position.

(2) Slip self-adjusting clip approximately 1/2-inch along control cable wire, moving defroster door crank arm toward rear of car.

(3) Move mode control lever from OFF to DEF, allowing control cable wire to slip through self-adjusting clip to proper adjustment.

NOTE: It may be necessary to slide crank arm self-adjusting clip slightly (1/16-inch) toward front of car to ensure proper arm movement.

(4) Check operation of defroster door.

HEATER CORE HOUSING

The heater core housing assembly (fig. 3D-5) is mounted on the dash panel in the engine compartment.

Removal

(1) Disconnect battery negative cable.

(2) Drain approximately two quarts of coolant from radiator.

(3) Disconnect heater hoses from heater core tubes in engine compartment. Install plugs in heater hoses and heater core tubes.

(4) Remove housing attaching nuts and screws and disconnect blend-air door cable.

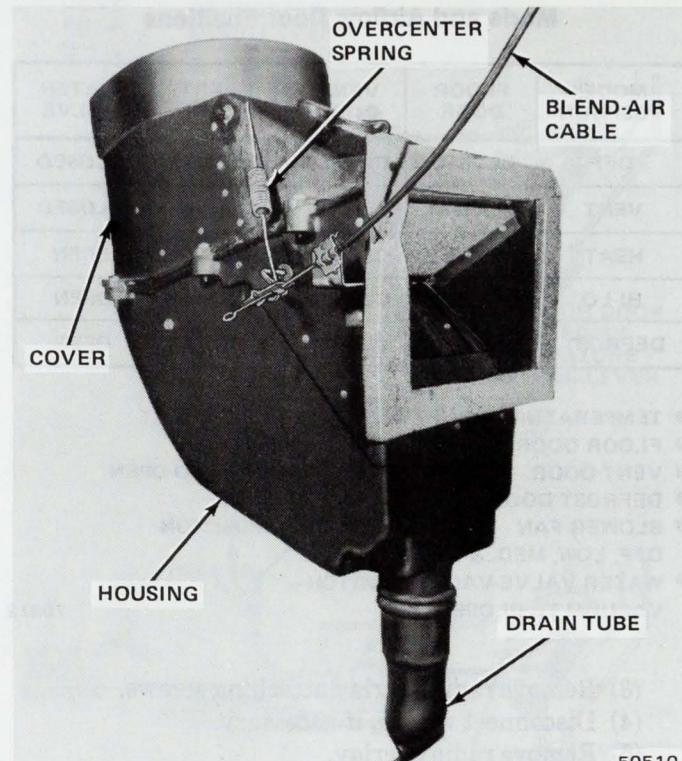


Fig. 3D-5 Heater Core Housing

(5) Remove housing.

(6) Remove heater core from housing, if required.

Installation

NOTE: Exercise care to ensure that seals are in proper position when installing housing on dash panel.

(1) Install heater core, if removed.

(a) Position heater core in housing and ensure that seals are in proper position around core.

(b) Apply sealer to joint between upper and lower housings.

(c) Install attaching screws and tighten to 14 inch-pounds (1.6 Nm) torque.

(2) Position heater core housing on dash panel and install attaching nuts and screw.

(3) Connect blend-air door cable and adjust cable.

(4) Connect battery negative cable.

(5) Remove plugs from heater core tubes and hoses and connect hoses.

(6) Install coolant.

(7) If equipped with a clock, reset clock to correct time.

(8) Check operation of blend-air door and over-center spring to assure complete closing.

HEATER HOUSING

Removal

(1) Disconnect battery negative cable.

(2) Remove heater core housing.

- (3) Loosen blower motor housing screw at top of heater core housing in engine compartment.
- (4) Remove heater housing-to-dash panel attaching nuts.
- (5) Remove instrument cluster bezel, radio overlay and radio, if equipped.
- (6) Remove crash pad as outlined in Chapter 3C.
- (7) Disconnect brown vacuum hose from vent door vacuum motor.
- (8) Disconnect defroster door cable.
- (9) Remove upper instrument panel-to-lower instrument panel screws.
- (10) Remove floor discharge duct.
- (11) Loosen blower motor housing brace screws.
- (12) Remove upper left corner and left side windshield finish mouldings.
- (13) Remove left and right side scuff plates and cowl trim panels.
- (14) Remove all four lower instrument panel-to-A-pillar screws.
- (15) Remove steering tube cover.
- (16) Loosen steering column bracket nuts.
- (17) Disconnect hood release cable bracket using Torx Bit Tool J-25359-02.
- (18) Disconnect right hand vent hose from heater housing fitting.
- (19) Pull instrument panel to rear and pull heater housing to rear and out under steering column.

Installation

- (1) Pull instrument panel to rear and push heater housing in and forward under steering column.
- (2) Install heater housing-to-dash panel nuts.
- (3) Connect right hand vent hose to heater housing fitting.
- (4) Tighten blower motor housing attaching screw.
- (5) Install lower instrument panel-to-A-pillar screws and tighten to 80 inch-pounds (9 Nm) torque.
- (6) Tighten steering column bracket nuts.
- (7) Install steering tube cover.
- (8) Install hood release cable bracket using Torx Bit Tool J-25359-02.
- (9) Install upper instrument panel-to-lower instrument panel screws.
- (10) Install right and left side cowl trim panels and scuff plates.
- (11) Install left side and upper left corner windshield finish mouldings.
- (12) Tighten blower motor housing brace screws.
- (13) Install floor discharge duct.
- (14) Connect brown vacuum hose to vent door vacuum motor.
- (15) Connect defroster door cable.

NOTE: Cable must be located by WHITE TAPE in center of clip attached to heater housing.

- (16) Install radio (if equipped), radio overlay and instrument cluster bezel.
- (17) Install crash pad.
- (18) Install heater core housing.
- (19) Connect battery negative cable.
- (20) Check for correct heater operation.
- (21) If equipped with clock, reset clock to correct time.

HEATER CORE REPLACEMENT

Removal

- (1) Drain approximately two quarts of coolant from radiator.
- (2) Disconnect heater hoses from core tubes and install plugs in heater hoses.
- (3) Remove heater core housing cover screws.
- (4) Disconnect overcenter spring from cover and remove cover.
- (5) Remove heater core-to-housing attaching screws and remove heater core.

Installation

- (1) Install heater core in housing and install attaching screws. Ensure that seals are in proper position around core.
- (2) Seal cover to housing.
- (3) Install cover and connect overcenter spring (fig. 3D-5).
- (4) Install cover screws.
- (5) Remove plugs and connect heater hoses to core tubes.
- (6) Replace coolant.

BLOWER MOTOR AND BLOWER HOUSING

The blower housing assembly is mounted to dash panel in the passenger compartment. It must be removed to service the blower motor.

Removal

- (1) Disconnect battery negative cable.
- (2) Remove right side windshield finish moulding.
- (3) Remove instrument panel crash pad as outlined in Chapter 3C.
- (4) Remove right scuff plate and cowl trim panel.
- (5) Remove lower instrument panel-to-right-A-pillar attaching screws.
- (6) Pull instrument panel to rear and replace lower attaching screw in right A-pillar. Allow instrument panel to rest on screw.
- (7) Remove heater core housing attaching nuts and screw.
- (8) Disconnect blend-air door cable from heater core housing.

(9) Pull heater core housing forward and set atop upper control arm.

(10) Remove blower motor housing attaching screw located in engine compartment.

(11) Remove blower motor ground wire attaching screw and disconnect white wire.

(12) Disconnect wires at blower motor resistor.

(13) Remove blower motor housing brace screw.

(14) Loosen heater housing-to-dash-panel attaching nuts.

(15) Pull blower housing to the rear and down.

(16) Remove blower housing.

(17) Remove blower housing cover.

(18) Remove blower motor mounting plate-to-housing screws and remove blower motor assembly.

(19) Remove blower fan from motor shaft.

(20) Remove blower motor mounting plate from motor.

Installation

(1) Install blower motor mounting plate on motor (fig. 3D-6 and 3D-7).

(2) Install blower fan on motor shaft.

(3) Install fan retainer clip (fig. 3D-6).

NOTE: For maximum output, clearance between fan and mounting plate must be as specified in figure 3D-7.

(4) Install blower motor assembly to housing.

CAUTION: Align blower motor cooling tube with hole in housing and motor.

(5) Position blower housing under instrument panel.

(6) Connect white wire to blower motor.

(7) Connect wires to blower motor resistor.

(8) Push blower housing up and forward to dash panel.

(9) Install blower housing brace screw.

(10) Tighten heater housing-to-dash panel attaching nuts.

(11) Connect ground wire.

(12) Install blower housing attaching screw in engine compartment.

(13) Install heater core housing.

(14) Connect blend-air door cable.

(15) Pull instrument panel to rear and remove lower attaching screw from A-pillar.

(16) Install instrument panel-to-A-pillar attaching screws and tighten to 80 inch-pounds (9 Nm) torque.

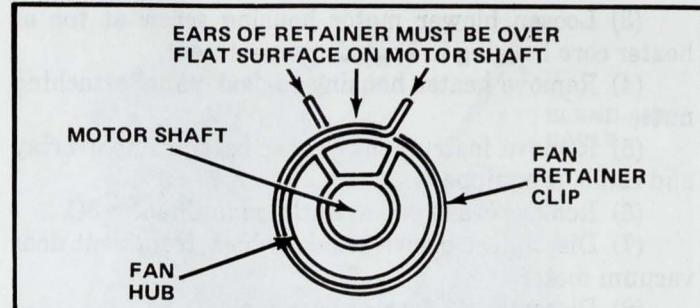
(17) Install crash pad as outlined in Chapter 3C.

(18) Install right cowl trim panel and scuff plate.

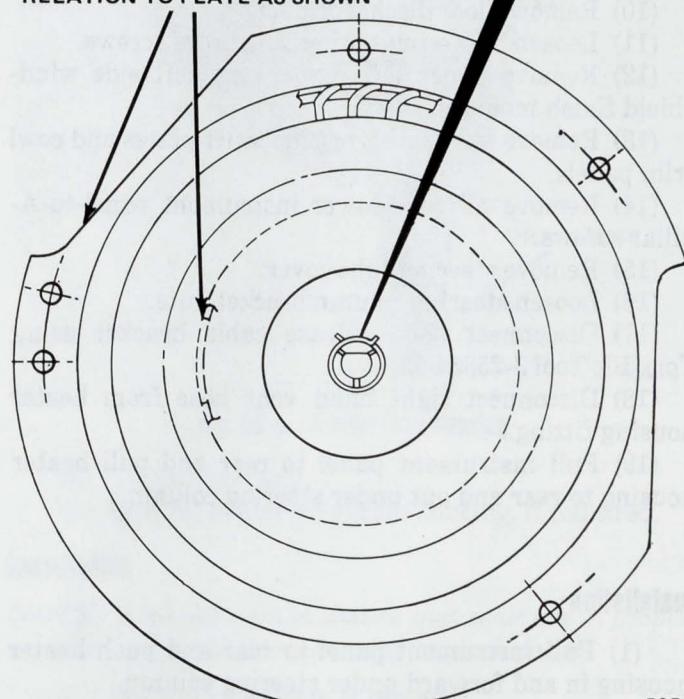
(19) Connect battery negative cable.

(20) Check for correct heater operation.

(21) If equipped with clock, reset clock to correct time.

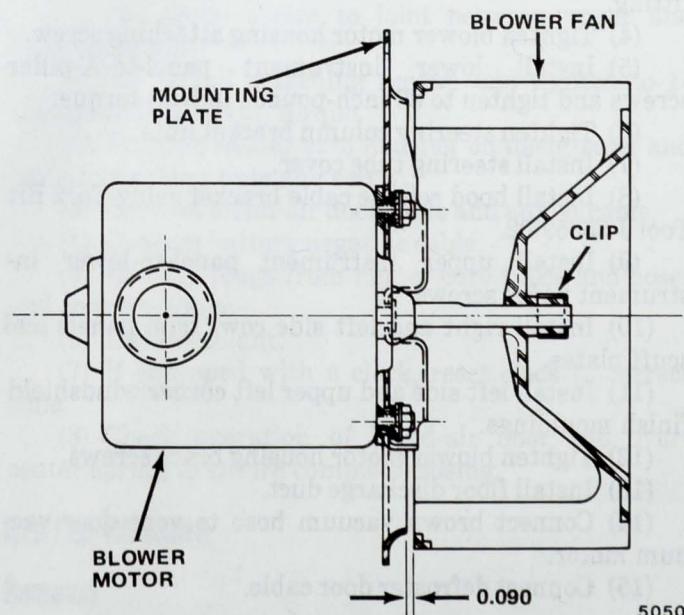


ASSEMBLE MOTOR TO MOUNTING PLATE WITH COOLING HOLE IN RELATION TO PLATE AS SHOWN



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Fig. 3D-6 Blower Fan Retainer Clip Installation



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Fig. 3D-7 Fan Mounting Plate Clearance

DEFROSTER DUCT

The defroster duct is attached to upper instrument panel by three plastic retainers. Remove the upper instrument panel as outlined in Chapter 3C to service the defroster duct.

BLOWER MOTOR RESISTOR

The blower motor resistor is connected in series between the blower motor switch and blower motor. It reduces blower speed in LO and MEDIUM positions.

The resistor is located in the bottom of the blower housing. It can be serviced by removing attaching screws and dropping the resistor out of the heater housing. Refer to Wiring Diagrams in the back of this Volume for Pacer wiring details.

CAUTION: Exercise care when installing the blower motor resistor. Do not bend resistor coils. Coils must not contact blower motor housing in the installed position.

Vent Door Vacuum Motor

The vent door vacuum motor is located on top of the heater housing (fig. 3D-2). It can be serviced by removing the radio overlay.

Vacuum Hoses

The vacuum hose routings are shown in figure 3D-8. The hoses are color coded.

The vacuum hose connectors at the vacuum switch are molded to the hoses. If hoses are mispositioned at the connector, the vacuum hose harness must be replaced.

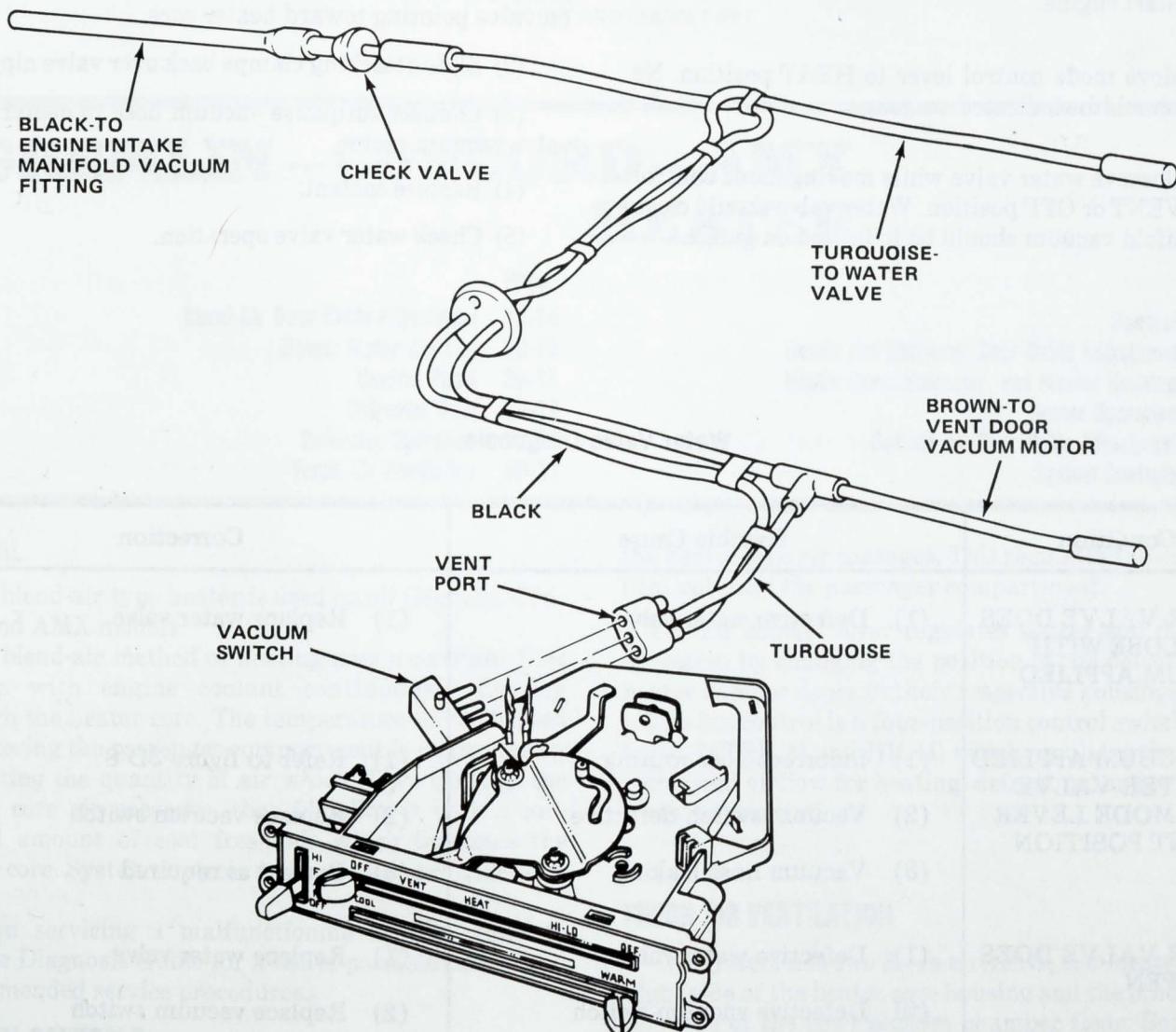


Fig. 3D-8 Vacuum Hose Routings

HEATER WATER VALVE

The heater water valve regulates flow to the heater core. It requires vacuum to close or shut off flow to the heater core. Vacuum is applied to the valve when the mode control lever is in the OFF or VENT position. The water valve is attached to the inlet heater hose which passes coolant to the core.

Water Valve Test

A vacuum gauge and tee are required for this test.

(1) Disconnect turquoise vacuum hose from heater water valve vacuum motor.

(2) Connect tee between vacuum hose and water valve vacuum motor nipple.

(3) Start engine.

(4) Move mode control lever to HEAT position. No vacuum should be indicated on gauge.

(5) Observe water valve while moving mode control lever to VENT or OFF position. Water valve should close and manifold vacuum should be indicated on gauge.

If heater water valve operated as described in the above test, it is operating properly. If it did not operate as described, refer to Water Valve Diagnosis Chart.

Removal

(1) Drain approximately two quarts of coolant from radiator.

(2) Disconnect turquoise vacuum hose from heater water valve vacuum motor.

(3) Disconnect water valve attaching clamps and slide clamps up heater hose away from valve.

(4) Disconnect heater hoses from heater water valve.

Installation

(1) Connect heater hoses to water valve with arrows on valve pointing toward heater core.

(2) Slide attaching clamps back over valve nipples.

(3) Connect turquoise vacuum hose to heater water valve vacuum motor.

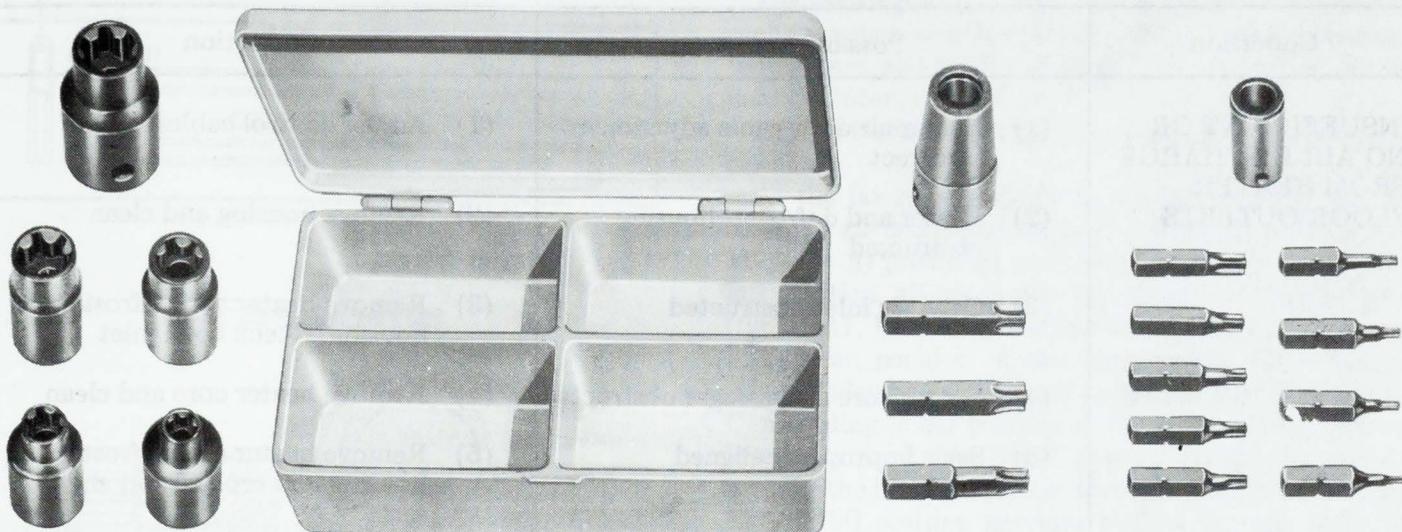
(4) Replace coolant.

(5) Check water valve operation.

Water Valve Diagnosis

Condition	Possible Cause	Correction
WATER VALVE DOES NOT CLOSE WITH VACUUM APPLIED	(1) Defective water valve	(1) Replace water valve
NO VACUUM APPLIED TO WATER VALVE WHEN MODE LEVER IN VENT POSITION	(1) Incorrect hose routing (2) Vacuum switch defective (3) Vacuum hose leaking	(1) Refer to figure 3D-8 (2) Replace vacuum switch (3) Correct as required
WATER VALVE DOES NOT OPEN	(1) Defective water valve (2) Defective vacuum switch (3) Blocked vacuum hose	(1) Replace water valve (2) Replace vacuum switch (3) Replace hose

Special Tools



J-25359-02
TORX BIT AND SOCKET SET

GREMLIN – CONCORD – AMX HEATER

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Blower Motor and Fan	3D-16	Heater and Defroster Door Cable Adjustment	3D-15
Control Panel	3D-14	Heater Core, Defroster, and Blower Housing	3D-15
Defroster Duct	3D-16	Heater Operation	3D-13
Defroster Operation	3D-13	Outside Air Door Cable Adjustment	3D-15
Fresh Air Ventilation	3D-11	System Controls	3D-11

GENERAL

The blend-air type heater is used on all Gremlin, Concord and AMX models.

The blend-air method of heating uses a constant flow system with engine coolant continuously flowing through the heater core. The temperature of the heated air entering the passenger compartment is controlled by regulating the quantity of air which flows through the heater core air passages, then blending it with a controlled amount of cool fresh air which bypasses the heater core. System controls and operation are described below.

When servicing a malfunctioning system, refer to Service Diagnosis Guide for a list of possible causes and recommended service procedures.

SYSTEM CONTROLS

The temperature control lever (fig. 3D-9) adjusts the amount of airflow around the heater core and through

the heater core air passages. This regulates the degree of heat entering the passenger compartment.

The air control lever regulates heater and defroster operation by changing the position of the defroster and heater damper doors in their respective housings.

The fan control is a four-position control switch (OFF, LOW, MEDIUM and HIGH) which regulates the blower motor and airflow for heating, defrosting, and providing fresh air ventilation.

FRESH AIR VENTILATION

The system has two fresh air vents, one located on the right side of the heater core housing and the other on the left side of the cowl plenum chamber floor. Both vents are cable-controlled with the control knobs mounted on the instrument panel to the right and left of the steering column (fig. 3D-10).

Service Diagnosis Guide

Condition	Possible Cause	Correction
INSUFFICIENT OR NO AIR DISCHARGE FROM HEATER FLOOR OUTLETS	(1) Heater air door cable adjustment incorrect (2) Heater and defroster housing obstructed (3) Cowl air inlet obstructed (4) Heater core air passages obstructed (5) Seals improperly aligned	(1) Adjust control cables (2) Remove housing and clean (3) Remove heater and defroster housing. Check cowl inlet (4) Remove heater core and clean (5) Remove heater and defroster housing and replace and align seals
INSUFFICIENT OR NO AIR DISCHARGE FROM DEFROSTER OUTLETS —ONE OR BOTH SIDES	(1) Defroster duct misaligned on heater and defroster housing (2) Defroster door cable adjustment incorrect (3) Seals improperly aligned (4) Defroster duct obstructed	(1) Align defroster duct (2) Adjust control cable (3) Remove heater and defroster housing and replace and align seals (4) Remove defroster duct and clean
AIR DISCHARGE FROM HEATER OR DEFROSTER OUTLETS WITH ALL CONTROLS OFF	(1) Outside air door cable improperly adjusted (2) Outside air door binding in housing	(1) Adjust cable (2) Remove heater core housing assembly, inspect door and repair as required
INSUFFICIENT HEAT FROM HEATER OUTLET WITH TEMPERATURE CONTROL LEVER FULL ON	(1) Insufficient coolant in radiator (2) Heater core plugged (3) Blend-air door cable improperly adjusted (4) Improper temperature range thermostat (5) Faulty thermostat installed (6) Air leaks	(1) Correct coolant level (2) Flush or replace heater core (3) Adjust cable (4) Replace thermostat with one of correct temperature range (5) Replace thermostat (6) Inspect vehicle and correct all leaks around cowl and door area

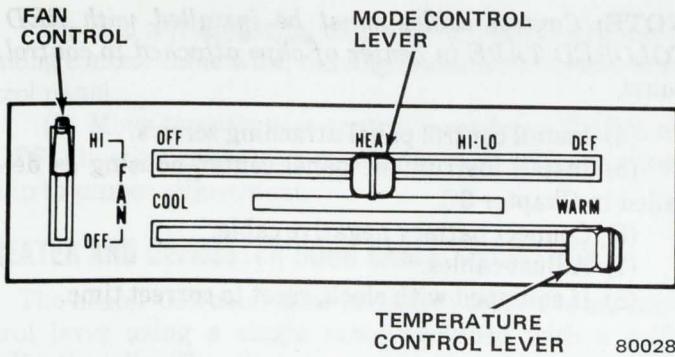


Fig. 3D-9 Control Panel

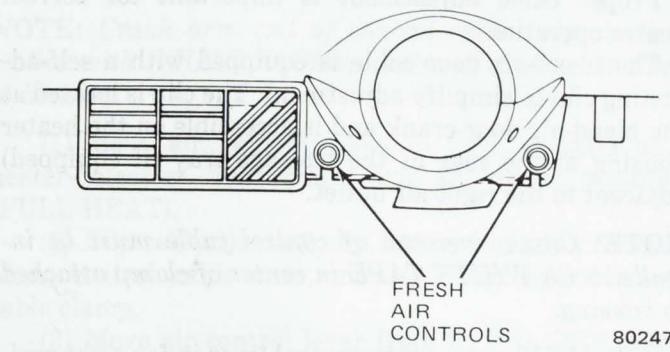


Fig. 3D-10 Fresh Air Vent Controls

HEATER OPERATION

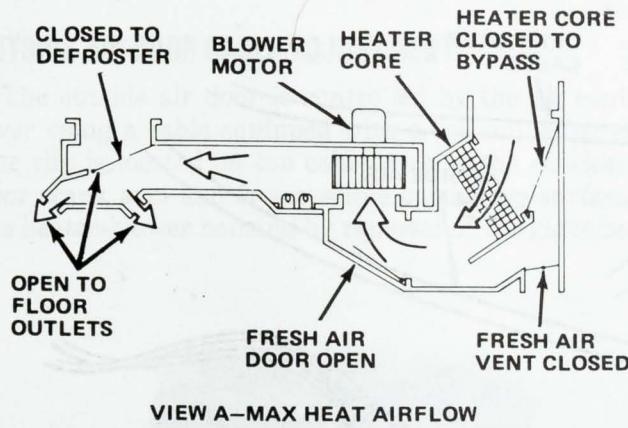
The heater portion of the system is part of the engine cooling system and depends on normal engine operating temperature and airflow through the cowl air intake to heat the interior of the car.

During heater operation, the fresh air vents must be closed.

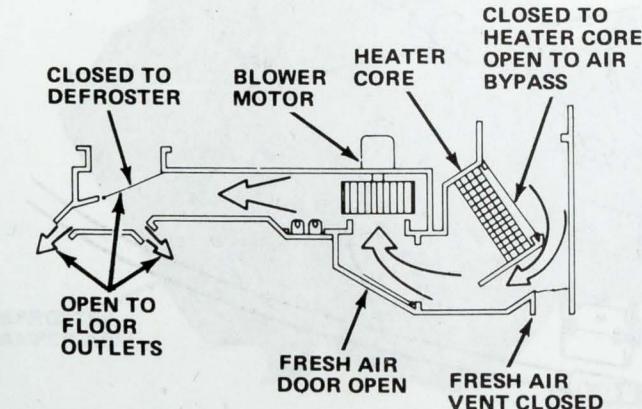
At the far right position of the temperature control lever, all air is directed through the heater core (fig. 3D-11, View A) providing maximum heat flow. At the far left position, all air is directed around the heater core (fig. 3D-11, View B) providing unheated, fresh air. Any in-between position of the temperature control lever allows a blend of outside and heated air (fig. 3D-11, View C) according to the position of the lever. The air control lever must be in the HEAT position for the blended air to enter the inside of the car through the floor heat duct. The HI-LO position provides airflow through both the floor and windshield ducts. If additional airflow is required, the blower motor should be operated at one of the three available speeds.

DEFROSTER OPERATION

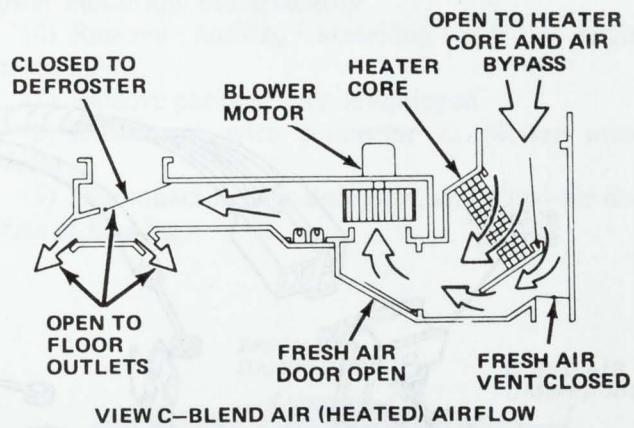
Windshield defrosting is obtained by moving the air control lever to the DEF position. The defroster damper is positioned to direct heated air through the defroster



VIEW A-MAX HEAT AIRFLOW



VIEW B-FRESH (UNHEATED) AIRFLOW



VIEW C-BLEND AIR (HEATED) AIRFLOW

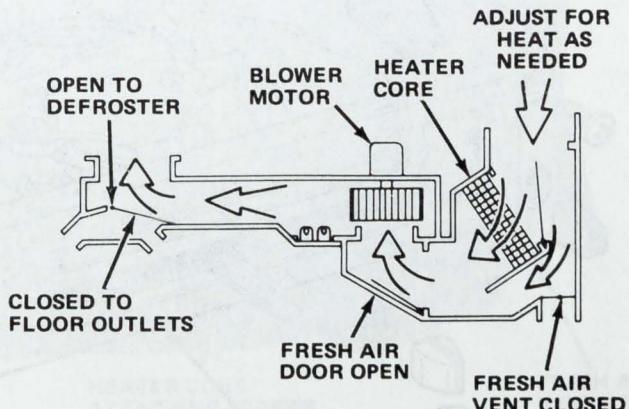


Fig. 3D-11 Heater and Defroster Airflow

duct (fig. 3D-11) to the defroster outlets on the top of the instrument panel.

The HI-LO position between the heat position and the defroster position will provide a combination of air discharge from the floor heat outlet and the defroster outlets.

When warmer air is required for defrosting, apply more heat by moving the temperature control lever to the full heat position. Operating the blower motor will increase airflow and defroster action.

CONTROL PANEL

Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel center housing as detailed in Chapter 3C.
- (3) Remove control panel attaching screws.
- (4) Disconnect cables from control levers (fig. 3D-12).
- (5) Disconnect electrical connectors.
- (6) Remove control panel.

Installation

- (1) Position control panel.
- (2) Connect electrical connectors.
- (3) Connect cables to control levers.

NOTE: Control cables must be installed with RED COLORED TAPE in center of clips attached to control panel.

- (4) Install control panel attaching screws.
- (5) Install instrument panel center housing as detailed in Chapter 3C.
- (6) Connect battery negative cable.
- (7) Adjust cables.
- (8) If equipped with clock, reset to correct time.

BLEND-AIR DOOR CABLE ADJUSTMENT

Proper cable adjustment is important for correct heater operation.

The blend-air door cable is equipped with a self-adjusting clip to simplify adjustment. The clip is located at the blend-air door crank and is accessible on the heater housing at the rear of the package tray (if equipped) adjacent to the right air outlet.

NOTE: Crank arm end of control cable must be installed with WHITE TAPE in center of clamp attached to housing.

- (1) Hold temperature control lever in far right position (WARM) and position blend-air door crank arm in extreme right end of travel (full heat position).

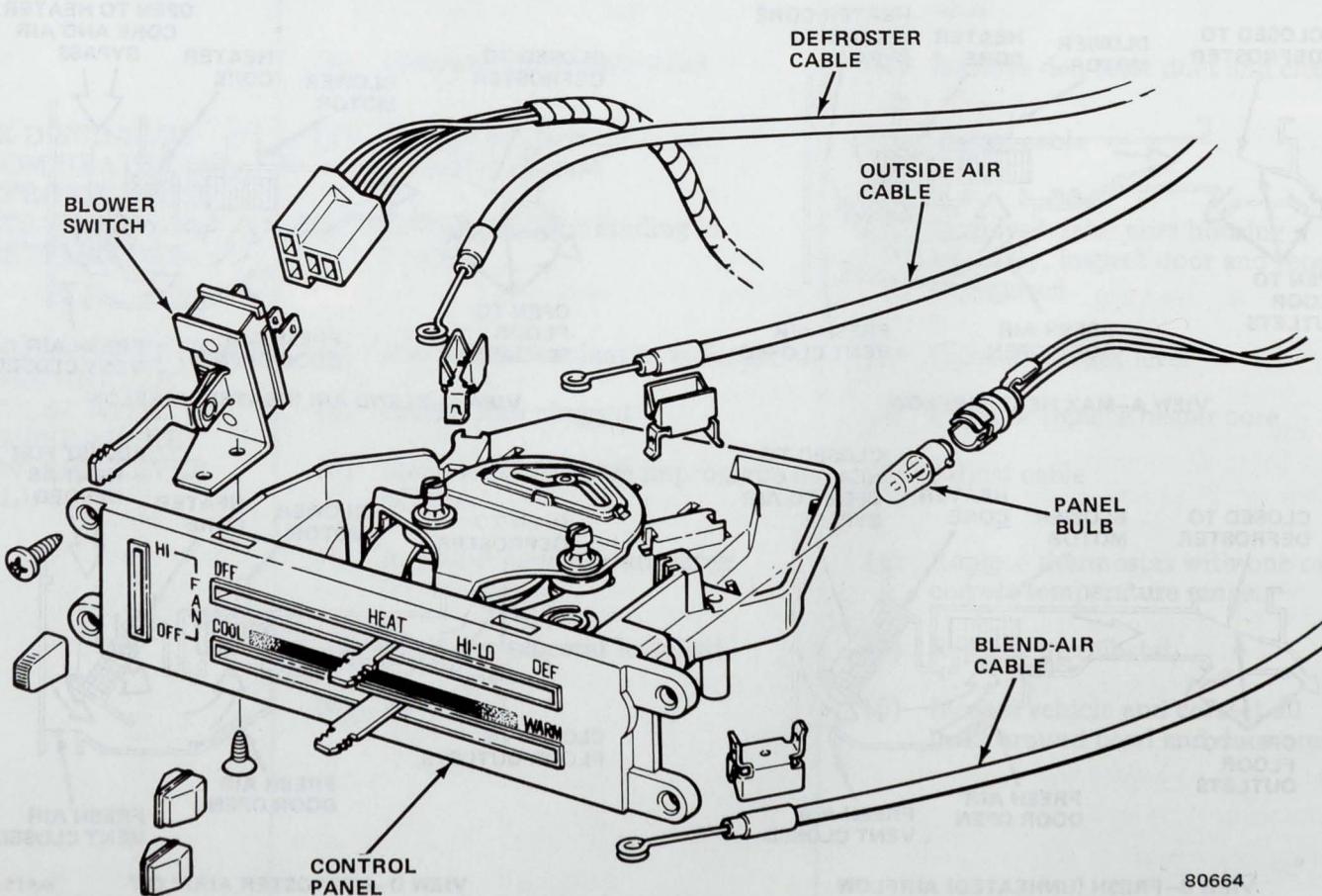


Fig. 3D-12 Control Panel Components

(2) Slip self-adjusting clip, approximately 1/2 inch, along control cable wire, moving crank arm toward control panel.

(3) Move temperature control lever from WARM to OFF, allowing cable wire to slip through self-adjusting clip to proper adjustment.

HEATER AND DEFROSTER DOOR CABLE ADJUSTMENT

The heater-defroster door is controlled by the air control lever using a single cable equipped with a self-adjusting clip. The clip is located on the cable wire at the heater-defroster door crank arm and is accessible just above the left-hand floor air outlet.

NOTE: Crank arm end of control cable must be installed with WHITE TAPE in center of clamp attached to housing.

(1) Move air control lever to OFF position and heater-defroster door crank arm to lowest position (FULL HEAT).

(2) Slip self-adjusting clip, approximately 1/2-inch along control cable wire, moving crank arm toward cable clamp.

(3) Move air control lever from OFF to DEF position, allowing cable wire to slip through self-adjusting clip to proper adjustment.

(4) Check air control lever operation.

OUTSIDE AIR DOOR CABLE ADJUSTMENT

The outside air door is controlled by the air control lever using a cable equipped with a self-adjusting clip. The clip is located on the cable wire at the outside air door crank arm and is accessible on the top surface of the heater-blower housing by removal of the glove box.

NOTE: Crank arm end of control cable must be installed with WHITE TAPE in center of clamp attached to housing.

(1) Move air control lever to OFF position and outside air door crank arm to extreme left position (closed).

(2) Slip self-adjusting clip, approximately 1/2-inch along cable wire moving crank arm away from cable clamp.

(3) Move air control lever from OFF to HEAT position, allowing cable wire to slip through self-adjusting clip to proper adjustment.

(4) Check air control lever operation.

HEATER CORE, DEFROSTER, AND BLOWER HOUSINGS

The heater core, defroster, and blower housing assembly (fig. 3D-13) is mounted on the dash panel in the passenger compartment.

Removal

(1) Disconnect battery negative cable.

(2) Drain approximately two quarts of coolant from radiator.

(3) Disconnect heater hoses from heater core tubes in engine compartment.

(4) Install plugs in heater core tubes.

(5) Disconnect blower motor wires and remove blower motor and fan assembly.

(6) Remove housing attaching nut in engine compartment.

(7) Remove package tray, if equipped.

(8) Disconnect wire connector at blower motor resistor.

(9) Disconnect heater, defroster, and blend-air door cables at housing.

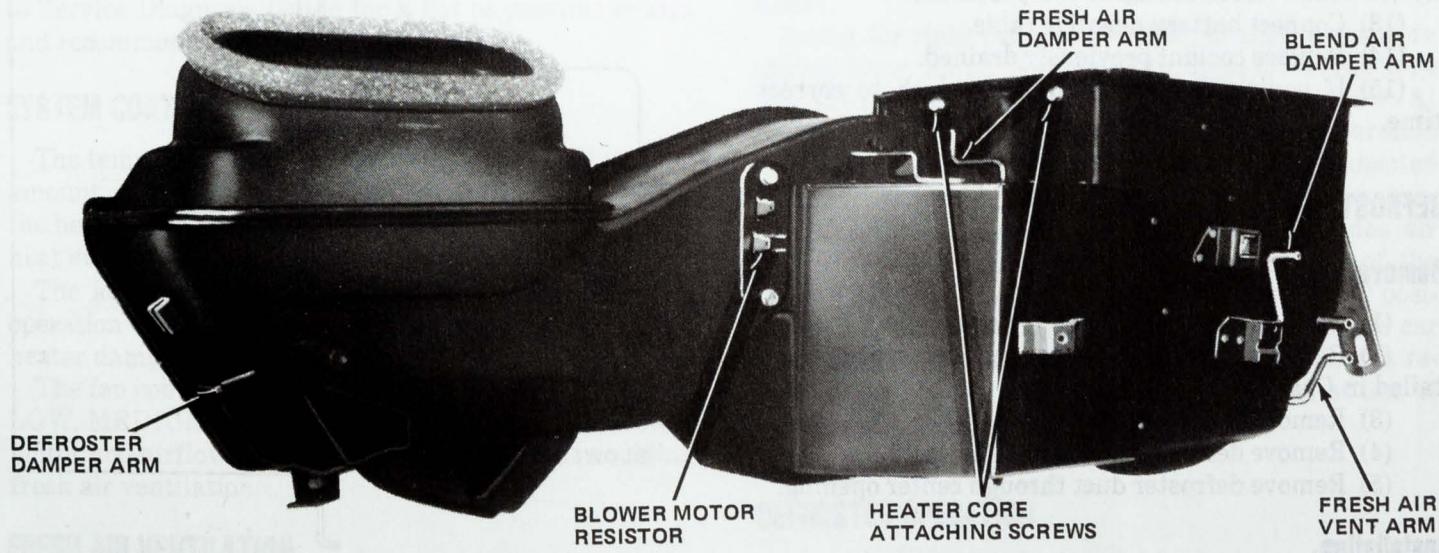


Fig. 3D-13 Heater Core Housing Assembly

- (10) Remove door sill plate.
- (11) Remove right cowl trim panel.
- (12) Remove right windshield pillar moulding, instrument panel upper attaching screws, and screw attaching instrument panel to right door hinge post.
- (13) Remove housing attaching screws.
- (14) Pull right side of instrument panel slightly rearward and remove housing.
- (15) Remove cover and screws attaching heater core to housing and remove heater core from housing.

Installation

- (1) Position heater core in housing and install cover and retaining screws.

NOTE: Ensure that heater core seals are in proper position to prevent air-bypass around perimeter of heater core.

- (2) Pull right side of instrument panel rearward and position housing on dash panel.
- (3) Install housing attaching screws.
- (4) Install right cowl trim panel.
- (5) Install door sill plate.
- (6) Install right windshield pillar moulding, instrument panel upper attaching screws, and screw attaching instrument panel to right door hinge post.
- (7) Connect heater air, defroster, and blend-air damper door cables to housing. Adjust cables.
- (8) Connect wire connector to blower motor resistor.
- (9) Install package tray, if equipped.
- (10) Install housing attaching nut in engine compartment.
- (11) Install blower motor and fan assembly and connect blower motor wires.
- (12) Remove plugs from heater core tubes and connector heater hoses in engine compartment.
- (13) Connect battery negative cable.
- (14) Replace coolant previously drained.
- (15) If equipped with clock, reset clock to correct time.

DEFROSTER DUCT

Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel center housing as detailed in Chapter 3C.
- (3) Remove control panel.
- (4) Remove defroster duct attaching nuts.
- (5) Remove defroster duct through center opening.

Installation

- (1) Install defroster duct through center opening and position on mounting studs.

- (2) Install defroster duct attaching nuts.
- (3) Install control panel.
- (4) Install instrument panel center housing as outlined in Chapter 3C.
- (5) Connect battery negative cable.
- (6) If equipped with clock, reset clock to correct time.

BLOWER MOTOR AND FAN

The blower motor and fan are accessible and may be removed from the engine compartment.

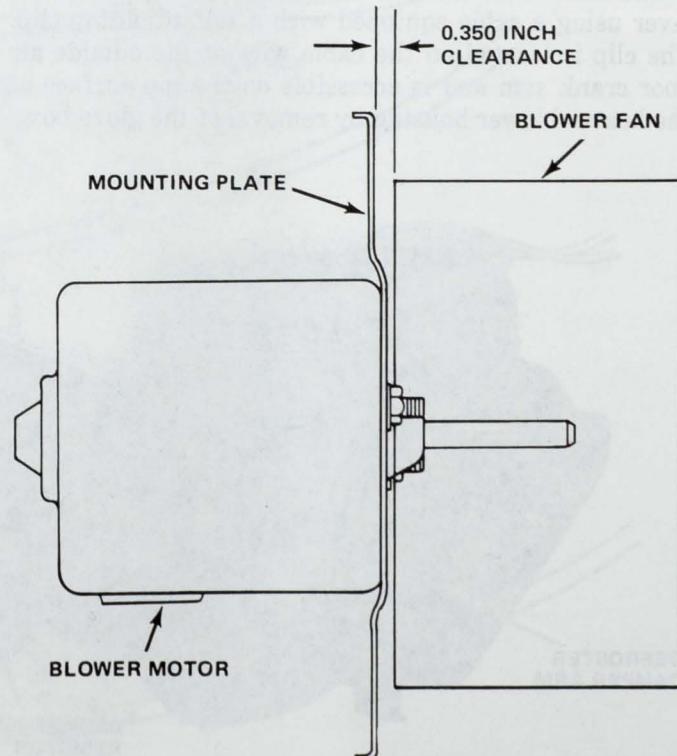
Removal

- (1) Disconnect blower motor wires.
- (2) Remove blower motor and fan assembly attaching nuts.
- (3) Remove blower motor and fan assembly.
- (4) Remove blower motor fan from motor shaft for access to motor attaching nuts.

Installation

- (1) Install blower fan on motor shaft.

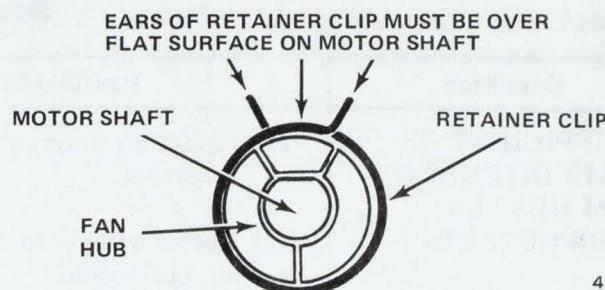
NOTE: For maximum output, clearance between the fan and the mounting plate must be as specified. Refer to Figure 3D-14.



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Fig. 3D-14 Fan Mounting Plate Clearance

- (2) Install retainer clip (fig. 3D-15).
- (3) Position blower motor and fan assembly and install attaching nuts.
- (4) Connect blower motor wires.
- (5) Check operation of blower motor.



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Fig. 3D-15 Blower Fan Retainer Clip Installation

MATADOR HEATER

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Blower Motor Housing	3D-23	Heater Core and Housing	3D-21
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Defroster Duct	3D-22	Heater Water Valve	3D-20
Defroster Operation	3D-17	System Controls	3D-17
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General	3D-17		

GENERAL

The blend-air method of heating uses a constant flow system with engine coolant continuously flowing through the heater core. The temperature of the heated air entering the passenger compartment is controlled by regulating the quantity of air which flows through the heater core air passages, then blending it with a controlled amount of cool fresh air which bypasses the heater core. System controls and operation are described in this section.

When servicing a malfunctioning heater system, refer to Service Diagnosis Guide for a list of possible causes and recommended service procedures.

SYSTEM CONTROLS

The temperature control lever (fig. 3D-16) adjusts the amount of airflow around the heater core and through the heater core air passages. This regulates the degree of heat entering the passenger compartment.

The air control lever regulates heater and defroster operation by changing the position of the defroster and heater damper doors in their respective housings.

The fan control is a four-position control switch (OFF, LOW, MEDIUM and HIGH) which regulates the blower motor and airflow for heating, defrosting, and providing fresh air ventilation.

FRESH AIR VENTILATION

The system has two fresh air vents, one incorporated in the heater housing on the right side and the other on

the left side of the cowl plenum chamber floor. Both vents are cable-controlled with the control knobs mounted on the lower finish panel to the right and left of the steering column.

HEATER OPERATION

The heater portion of the system is part of the engine cooling system and depends on normal engine operating temperature and airflow through the cowl air intake to heat the interior of the car.

During heater operation, the fresh air vents must be closed.

At the far right position (WARM) of the temperature control lever, all air is directed through the heater core (fig. 3D-17, View A) providing maximum heat flow. At the far left position (COOL), all air is directed around the heater core (fig. 3D-17, View B) providing unheated fresh air. Any in-between position of the temperature control lever allows a blend of outside and heated air (fig. 3D-17, View C) according to the position of the lever. The air control lever must be in the HEAT position for the blended air to enter the inside of the car through the floor heat duct. If additional airflow is required, the blower motor should be operated at one of the three available speeds.

DEFROSTER OPERATION

Windshield defrosting is obtained by moving the air control lever to the DEFROST position. The defroster damper is positioned to direct heated air through the

Service Diagnosis

Condition	Possible Cause	Correction
INSUFFICIENT OR NO AIR DISCHARGE FROM HEATER FLOOR OUTLETS	(1) Heater air door cable adjustment incorrect. (2) Heater damper and defroster housing obstructed. (3) Cowl air inlet obstructed. (4) Heater core air passages obstructed. (5) Seals improperly aligned.	(1) Adjust control cables. (2) Remove housing and clean. (3) Remove heater and defroster damper housing. Check cowl inlet. (4) Remove heater core and clean. (5) Remove heater and defroster damper housing and replace and align seals.
INSUFFICIENT OR NO AIR DISCHARGE FROM DEFROSTER OUTLETS—ONE OR BOTH SIDES	(1) Defroster duct misaligned on heater and defroster damper housing. (2) Defroster door cable adjustment incorrect. (3) Seals improperly aligned. (4) Defroster duct obstructed.	(1) Align defroster duct. (2) Adjust control cable. (3) Remove heater and defroster damper housing and replace and align seals. (4) Remove defroster duct and clean.
AIR DISCHARGE FROM HEATER OR DEFROSTER OUTLETS WITH ALL CONTROLS OFF	(1) Door cables improperly adjusted. (2) Door binding in housing.	(1) Adjust cables. (2) Remove heater and defroster damper housing and inspect damper doors.
INSUFFICIENT HEAT FROM HEATER OUTLET WITH TEMPERATURE CONTROL LEVER FULL ON	(1) Insufficient coolant in radiator. (2) Heater core plugged. (3) Blend air door cable improperly adjusted. (4) Improper temperature range thermostat. (5) Faulty thermostat installed. (6) Air leaks.	(1) Correct coolant level. (2) Flush or replace heater core. (3) Adjust cable. (4) Replace thermostat with one of correct temperature range. (5) Replace thermostat. (6) Inspect vehicle and correct all leaks around cowl and door area.

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defroster duct (fig. 3D-17, View D) to the defroster outlets on top of the instrument panel.

Intermediate positions between the HEAT position and the DEFROST position will provide a combination of air discharge from the floor heat outlet and the defroster outlets.

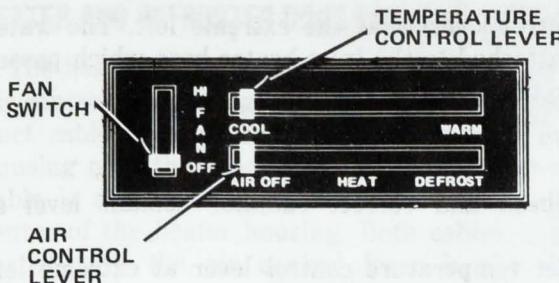
When warmer air is required for defrosting, apply more heat by moving the temperature control lever to

the full heat position (WARM). Operating the blower motor will increase airflow and defrosting action.

CONTROL PANEL

Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster bezel attaching screws, radio knobs and attaching nuts, if equipped.



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Fig. 3D-16 Control Panel

(3) Disconnect right hand remote mirror control from instrument cluster bezel, if equipped.

(4) Carefully tilt bezel away from instrument panel, disconnect all electrical connections and remove.

(5) Remove clock or clock opening cover.

(6) Remove control panel attaching screws.

(7) Disconnect cables from control levers.

(8) Disconnect control switch wires.

(9) Disconnect vacuum hoses.

(10) Remove control panel.

Installation

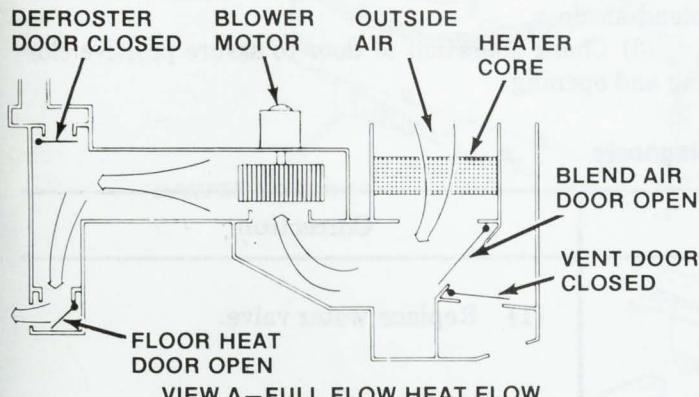
(1) Position control panel.

(2) Connect control switch wires.

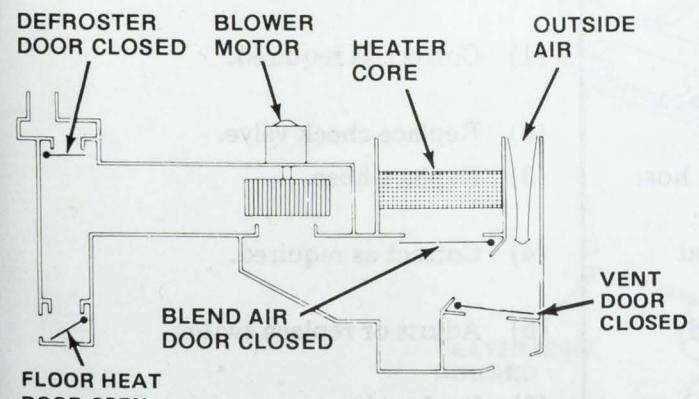
(3) Connect cables to control levers.

(4) Install control panel attaching screws.

(5) Connect vacuum hoses.



VIEW A—FULL FLOW HEAT FLOW



VIEW B—FRESH (UNHEATED) AIRFLOW

NOTE: The intake manifold vacuum supply hose is connected to the port nearest the vacuum switch plunger.

(6) Install clock or clock opening cover.

(7) Position bezel on instrument panel and connect all electrical connections.

(8) Connect right hand remote mirror control to instrument cluster bezel, if equipped.

(9) Install instrument cluster bezel attaching screws and radio attaching nuts and knobs.

(10) Connect battery negative cable.

(11) Adjust cables.

(12) Reset clock, if equipped.

VACUUM SWITCH

Removal

(1) Disconnect battery negative cable.

(2) Remove instrument cluster bezel attaching screws and radio attaching nuts, if equipped.

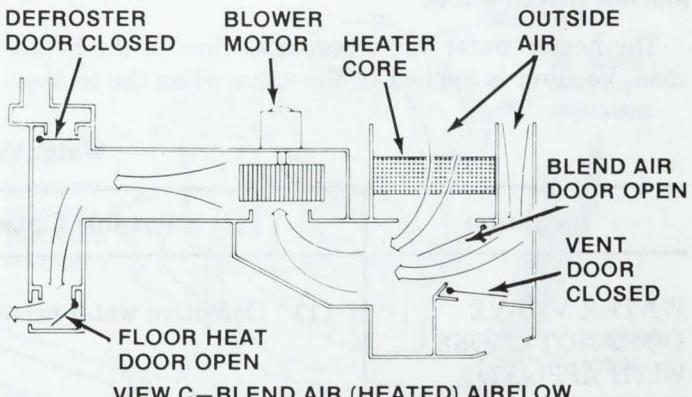
(3) Remove right remote mirror trim nut, if equipped.

(4) Carefully tilt bezel away from instrument panel, disconnect all electrical connections, and remove bezel.

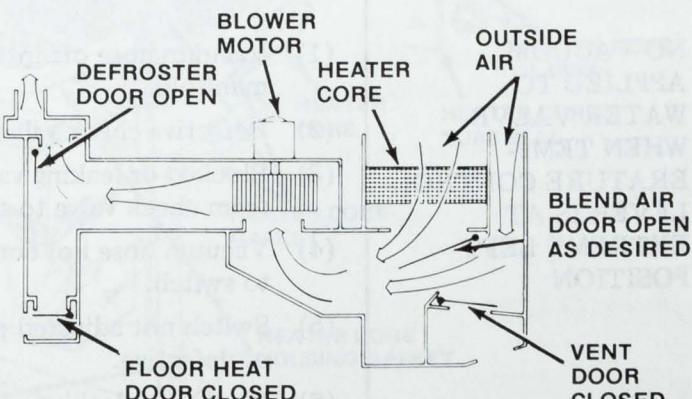
(5) Remove clock or clock opening cover.

(6) Disconnect vacuum hoses from switch.

(7) Remove attaching screws and switch from control panel.



VIEW C—BLEND AIR (HEATED) AIRFLOW



VIEW D—DEFROSTER AIRFLOW

Fig. 3D-17 Heater and Defroster Airflow

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Installation

(1) Position switch on control panel and install attaching screws.

(2) Adjust switch and connect vacuum hoses.

NOTE: The intake manifold vacuum supply hose is connected to the port nearest the vacuum switch plunger.

(3) Install clock or clock opening cover.

(4) Install instrument cluster bezel attaching screws and radio attaching nuts, if equipped.

(5) Install right remote mirror trim nut, if equipped.

(6) Connect battery negative cable.

(7) Reset clock, if equipped, to correct time.

Adjustment

(1) Remove instrument cluster bezel as outlined in removal procedure above.

(2) Loosen switch attaching screws.

(3) Move temperature control lever all the way to the left COOL position.

(4) Position vacuum switch against temperature control lever bellcrank fully depressing plunger and tighten attaching screws.

(5) Install instrument cluster bezel as outlined in installation procedure above.

HEATER WATER VALVE

The heater water valve regulates flow to the heater case. Vacuum is applied to the valve when the temper-

ature control lever is at the extreme left. The water valve is attached to the inlet heater hose which passes coolant to the core.

Test

(1) Check and correct radiator coolant level as required.

(2) Set temperature control lever at extreme left (COOL) position and start engine.

(3) Check that water valve operating link has been pulled in by vacuum diaphragm.

(4) Remove vacuum hose from water valve and observe that operating link moves out and valve opens.

If water valve operated as described in the above test, it is operating properly. If it did not operate as described, refer to Water Valve Diagnosis chart.

BLEND-AIR DOOR CABLE ADJUSTMENT

Proper cable adjustment is important for correct heater operation.

The blend-air door cable is equipped with a turnbuckle to simplify adjustment. The turnbuckle is located under the instrument panel above the glove box and is accessible midway between the control and the housing.

(1) Place temperature control lever in far left position.

(2) Rotate turnbuckle to obtain complete closing of blend-air door.

(3) Check operation of door to assure positive closing and opening.

Water Valve Diagnosis

Condition	Possible Cause	Correction
WATER VALVE DOES NOT CLOSE WITH APPLIED VACUUM	(1) Defective water valve.	(1) Replace water valve.
NO VACUUM APPLIED TO WATER VALVE WHEN TEMPERATURE CONTROL LEVER IS AT EXTREME LEFT POSITION	(1) Vacuum hose off intake manifold. (2) Defective check valve. (3) Blocked or leaking vacuum hose from check valve to switch. (4) Vacuum hose not connected to switch. (5) Switch not adjusted properly or defective. (6) Blocked or leaking vacuum hose from switch to water valve.	(1) Correct as required. (2) Replace check valve. (3) Replace hose. (4) Correct as required. (5) Adjust or replace switch. (6) Replace hose.

HEATER AND DEFROSTER DOOR CABLE ADJUSTMENT

The heater and defroster doors are controlled by the air control lever using separate cables. The heater floor duct cable is adjusted on the left side of the heater housing near the accelerator pedal. The defroster duct cable is adjusted under the instrument panel in the center of the heater housing. Both cables must be adjusted with the air control lever in the AIR OFF position.

- (1) Loosen cable housing retaining screws at heater housing.
- (2) Place air control lever in AIR OFF position.
- (3) Hold door levers tightly closed.
- (4) Slide cable housings until cables are taut.
- (5) Tighten retaining screws.
- (6) Check air control lever operation.

HEATER CORE AND HOUSING

The heater core and housing assembly (fig. 3D-18) is mounted on the dash panel in the passenger compartment.

Removal

- (1) Disconnect battery negative cable.

- (2) Drain approximately two quarts of coolant from radiator.

- (3) Disconnect heater hoses from heater core tubes in engine compartment. Install plugs in heater hoses and heater core tubes.

- (4) Remove lower instrument finish panel and glove box as detailed in Chapter 3C.

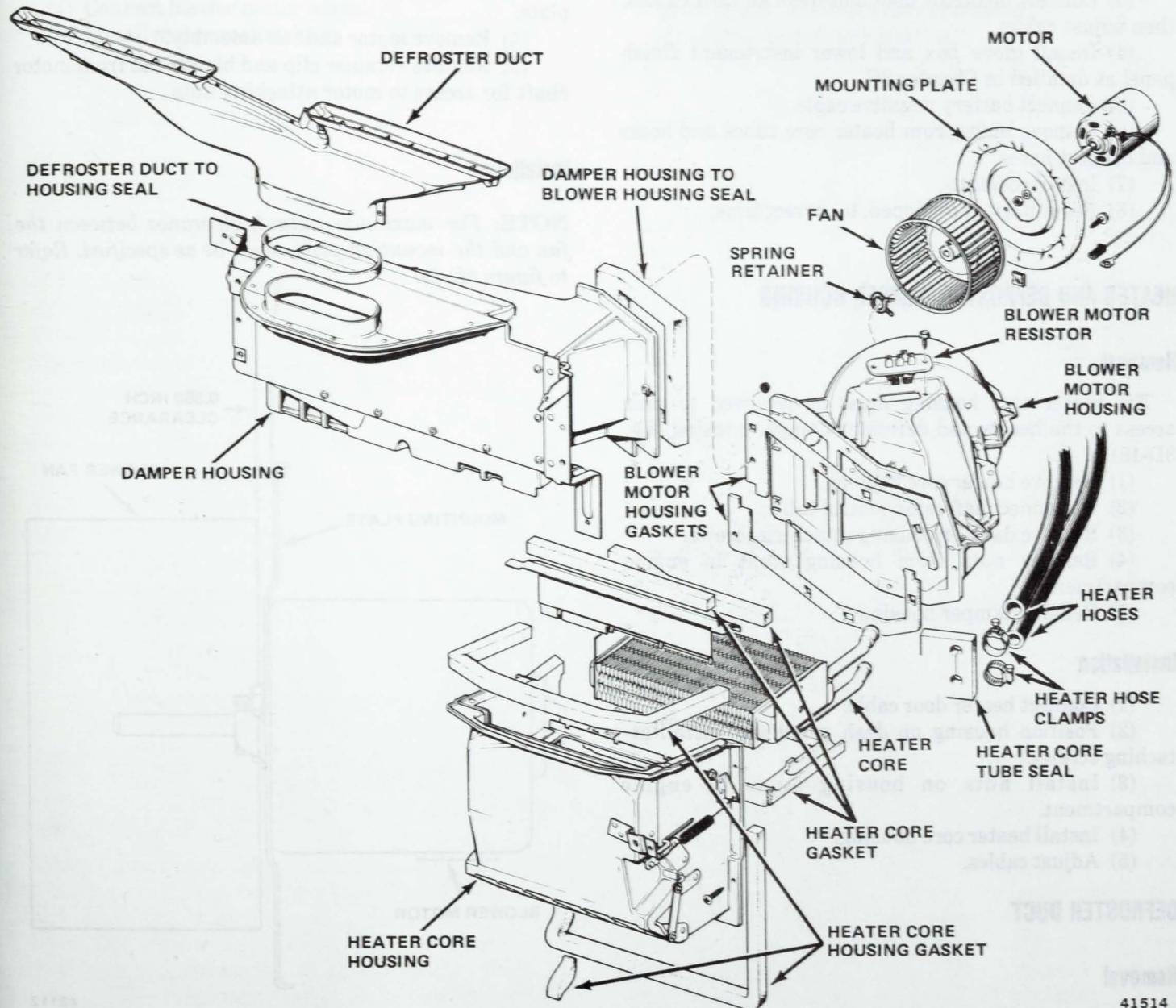


Fig. 3D-18 Heater Assembly

(5) Remove right side windshield reveal moulding to obtain access to upper right housing attaching screw.

(6) Remove remaining housing attaching screws and disconnect blend-air door and fresh air door cables.

(7) Remove housing.

NOTE: Heater core may be separated from housing.

Installation

(1) Install heater core, if removed, making sure core seals are in proper position.

NOTE: Exercise care to ensure that seals are in proper position when installing housing on dash panel.

(2) Position heater housing on dash panel and install attaching screws.

(3) Connect blend-air door and fresh air door cables, then adjust cables.

(4) Install glove box and lower instrument finish panel as detailed in Chapter 3C.

(5) Connect battery negative cable.

(6) Remove plugs from heater core tubes and hoses and connect hoses.

(7) Install coolant.

(8) Reset clock, if equipped, to correct time.

HEATER AND DEFROSTER DAMPER HOUSING

Removal

The heater core housing must be removed to gain access to the heater and defroster damper housing (fig. 3D-18).

(1) Remove heater core housing.

(2) Disconnect defroster control cable.

(3) Remove damper housing attaching screws.

(4) Remove nuts from housing studs in engine compartment.

(5) Remove damper housing.

Installation

(1) Connect heater door cable.

(2) Position housing on dash panel and install attaching screws.

(3) Install nuts on housing studs in engine compartment.

(4) Install heater core housing.

(5) Adjust cables.

DEFROSTER DUCT

Removal

(1) Remove heater and defroster damper housing.

(2) Remove defroster duct attaching screws.

Installation

(1) Position defroster duct and install attaching screws.

(2) Install heater and defroster damper housing.

BLOWER MOTOR AND FAN

The blower motor and fan are accessible and may be removed from the engine compartment (fig. 3D-18).

Removal

(1) Disconnect blower motor wires.

(2) Remove motor cooling hose.

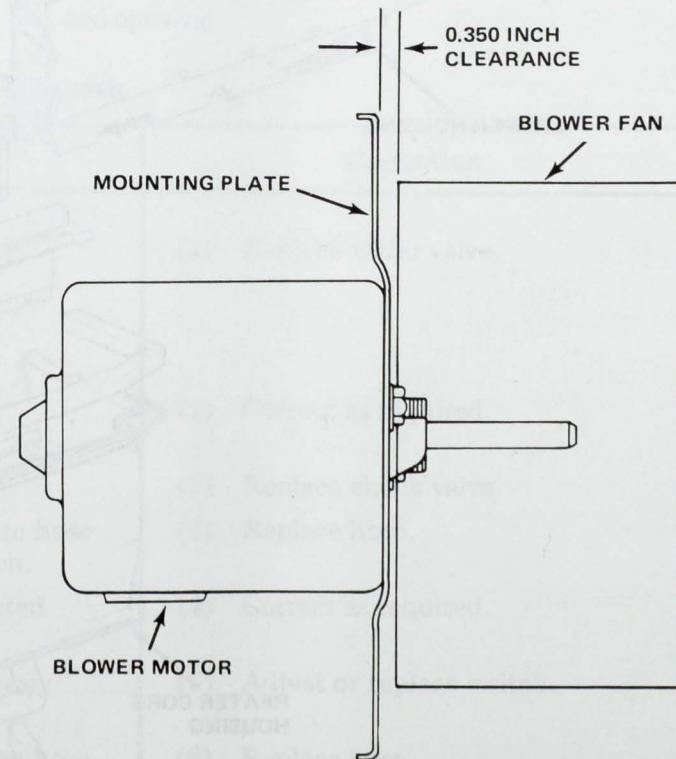
(3) Remove attaching screws from motor mounting plate.

(4) Remove motor and fan assembly.

(5) Remove retainer clip and blower fan from motor shaft for access to motor attaching nuts.

Installation

NOTE: For maximum output, clearance between the fan and the mounting plate must be as specified. Refer to figure 3D-19.



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Fig. 3D-19 Fan Mounting Plate Clearance

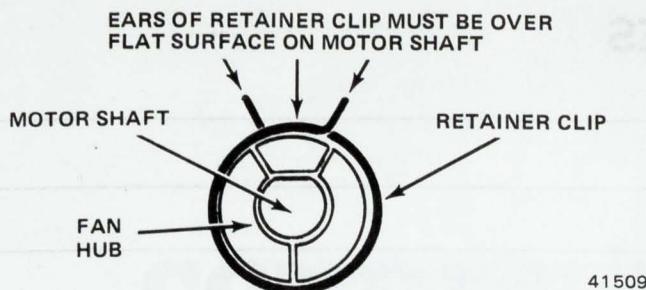


Fig. 3D-20 Blower Fan Retainer Clip Installation

- (1) Position blower fan on motor shaft and install retainer clip (fig. 3D-20).
- (2) Position motor and fan assembly.
- (3) Install attaching screws.
- (4) Connect blower motor wires.
- (5) Install motor cooling hose.

BLOWER MOTOR HOUSING

Removal

To service the blower motor housing, the heater core housing first must be removed to gain access to the attaching screws (fig. 3D-18).

- (1) Remove heater core housing.
- (2) Disconnect wire connector at resistor.
- (3) Disconnect blower motor wire.
- (4) Remove blower motor housing attaching screws.
- (5) Remove blower motor housing.

Installation

- (1) Position blower motor housing.
- (2) Install attaching screws.
- (3) Connect blower motor wire.
- (4) Connect wire connector at resistor.
- (5) Install heater core housing.

NOTES

AIR CONDITIONING

3E

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GENERAL INFORMATION

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SYSTEM COMPONENTS

Compressor—The compressor is a two-cylinder, belt-driven pump used to circulate and increase the pressure of the refrigerant in the system.

Condenser—The condenser is mounted in front of the radiator to allow air to flow over the cooling fins and remove heat from the refrigerant. As the refrigerant passes through the condenser, it liquifies (condenses).

Receiver/Drier—The receiver/drier is a reservoir used to store the precise amount of refrigerant required by the system. The refrigerant level in the receiver/drier must be adequate to provide a steady flow of refrigerant to the expansion valve. The receiver/drier contains a desiccant to remove moisture from the system. The receiver/drier must be replaced anytime the system has been open to atmosphere due to a system component failure. If during servicing the receiver/drier is removed from the system, it must be tightly capped immediately.

Expansion Valve—The thermostatic expansion valve is located at the inlet of the evaporator. It meters the refrigerant to the evaporator, so as to maintain the proper flow for the various evaporator heat load requirements encountered during operation. The metering action of the expansion valve is controlled by the temperature sensing bulb mounted on the outlet (suction) line of the evaporator.

Evaporator—The evaporator is an air cooler and dehumidifier. As the refrigerant enters the evaporator core, it begins to boil. The heat in the air passing over the evaporator transfers or gives up its heat to the boiling refrigerant. As the air cools, the moisture in the air condenses on the evaporator core and is drained off as water.

SYSTEM OPERATION

The compressor increases the pressure and temperature of the system refrigerant (fig. 3E-1). The heated refrigerant vapor is then pumped into the condenser where it cools by giving off heat to air passing over the condenser fins. As the refrigerant cools in the condenser, it condenses into a liquid. Still under high pressure, the liquid refrigerant passes into the receiver. The receiver acts as a reservoir to furnish refrigerant to the expansion valve at all times. From the receiver, the high pressure liquid refrigerant passes to the expansion valve. The expansion valve meters refrigerant into the evaporator where a low pressure is maintained by the suction side of the compressor. As it enters the evaporator, the refrigerant immediately begins to boil by absorbing heat from the air passing over the evaporator core. Having given up its heat to boil the refrigerant, the air is cooled and passes into the passenger compartment of the vehicle. From the evaporator the vaporized refrigerant is drawn back to the compressor to repeat the cycle.

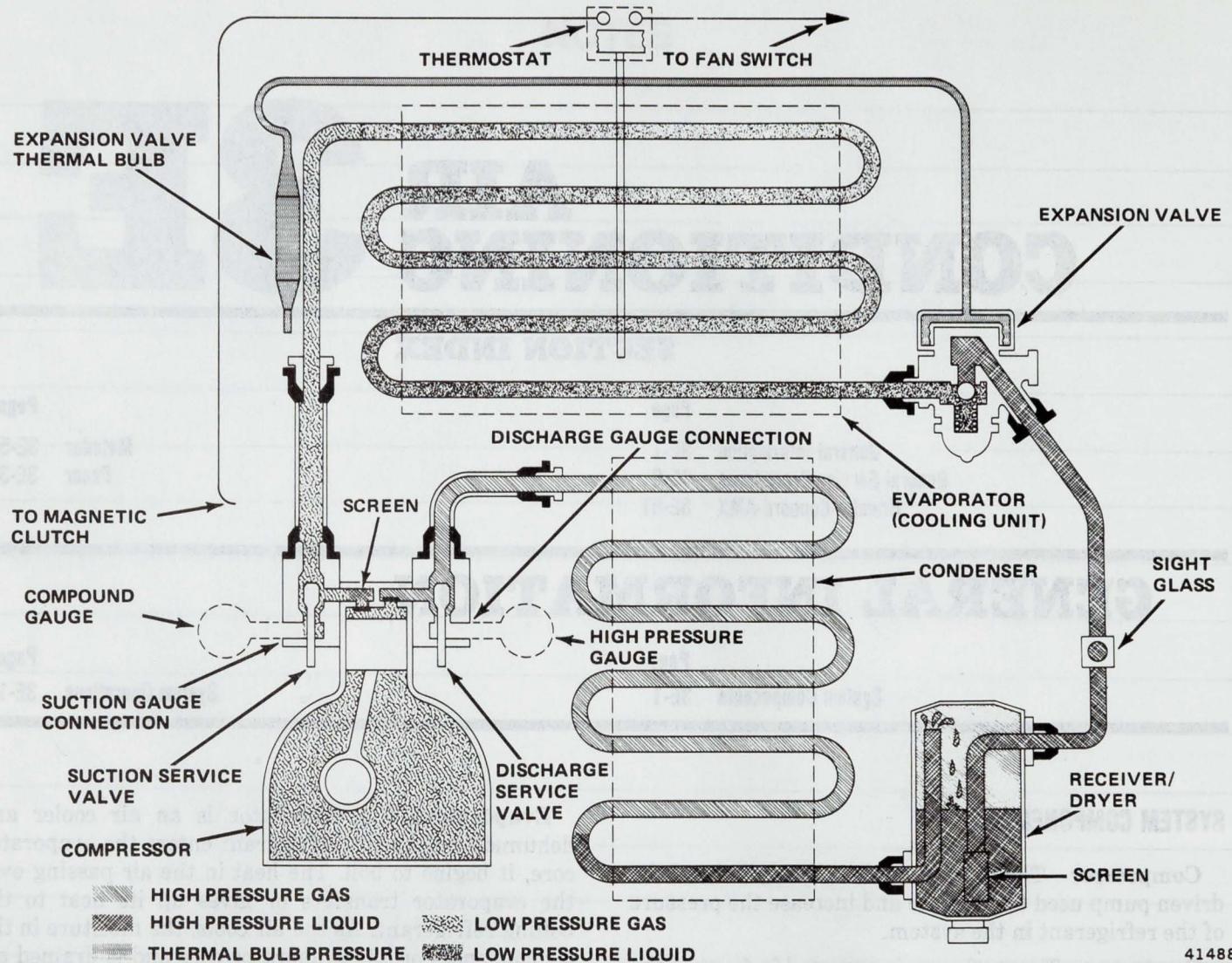


Fig. 3E-1 Refrigeration Cycle

GENERAL SERVICE PROCEDURES

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GENERAL

The following service procedures apply to all factory installed air conditioning systems

REFRIGERANT SAFETY PRECAUTIONS

The refrigerant used in automotive air conditioning systems is dichlorodifluoromethane, commonly known

as Refrigerant 12 or R-12. It is transparent and colorless in both the liquid and vapor state. Since it has a boiling point of **21.7°F below zero** at atmospheric pressure, it vaporizes at all normal temperatures and pressures. The vapor is heavier than air, nonflammable and nonexplosive. It is nonpoisonous except when in direct contact with open flame, and is noncorrosive except when combined with water. Observe the following precautions when handling R-12.

R-12 evaporates so rapidly at normal atmospheric pressures and temperatures that it tends to freeze anything it contacts. For this reason, extreme care must be taken to prevent any liquid refrigerant from contacting the skin and especially the eyes.

WARNING: Always wear safety goggles when servicing the refrigeration part of the air conditioning system. Keep a bottle of sterile mineral oil and a weak solution of boric acid handy when working on the refrigeration system. Should any liquid refrigerant get into the eyes, use a few drops of mineral oil to wash them out (R-12 is rapidly absorbed by oil). Next, wash the eyes with the weak solution of boric acid. Call a doctor immediately, even though irritation has ceased after the first aid treatment.

WARNING: Do not heat R-12 above 125°F.

In most instances, moderate heat is required to bring the pressure of the refrigerant in its container above the pressure of the system when charging or adding refrigerant. A bucket or large pan of hot water not over 125°F is all the heat required for this purpose. Do not heat the refrigerant container with a blowtorch or any other means that would raise temperature and pressure above this temperature. Do not weld, steam clean or heat the system components or refrigerant lines.

CAUTION: Keep R-12 containers upright when charging the system, so as to utilize the vapor instead of the liquid.

When metering R-12 into the refrigeration system, **keep the supply tank or cans in an upright position**. If the refrigerant container is on its side or upside down, liquid refrigerant will enter the system and damage the compressor.

WARNING: Always work in a well-ventilated area.

Always maintain good ventilation in the working area. Always discharge the refrigerant into the service bay exhaust system or outside the building. Large quantities of refrigerant vapor in a small, poorly ventilated room can displace the air and cause suffocation.

Although R-12 vapor is normally nonpoisonous, it can be changed into a very poisonous gas if allowed to come in contact with an open flame. Do not discharge large

quantities of refrigerant in an area having an open flame. A poisonous gas is produced when using the halide torch leak detector. Avoid inhaling the fumes from the leak detector.

CAUTION: Do not allow liquid refrigerant to touch bright metal.

Refrigerant will tarnish bright metal and chrome surfaces. Avoid splashing refrigerant on any surface. Refrigerant in combination with moisture is very corrosive and can cause extensive damage to all metal surfaces.

SERVICE VALVES

The discharge and suction service valves are mounted on the compressor cylinder head and are used for diagnosis, charging, discharging, evacuating, and component removal.

The service valves are three-position valves (fig. 3E-2). The normal operating position, shown in figure 3E-2, View B, has the valve stem turned **countrerclockwise** to the **back-seated** (full-out) position.

When the valve stem is turned **clockwise** to the **front-seated** (full-in) position (fig. 3E-2, View A), the compressor is isolated from the system. This position is used when removing the compressor or when checking compressor oil level.

When the valve is **midpositioned** (cracked) (fig. 3E-2, View C), the gauge port is **open**. This position is used when charging, discharging, evacuating, and checking system pressure.

PRESSURE GAUGE AND MANIFOLD ASSEMBLY

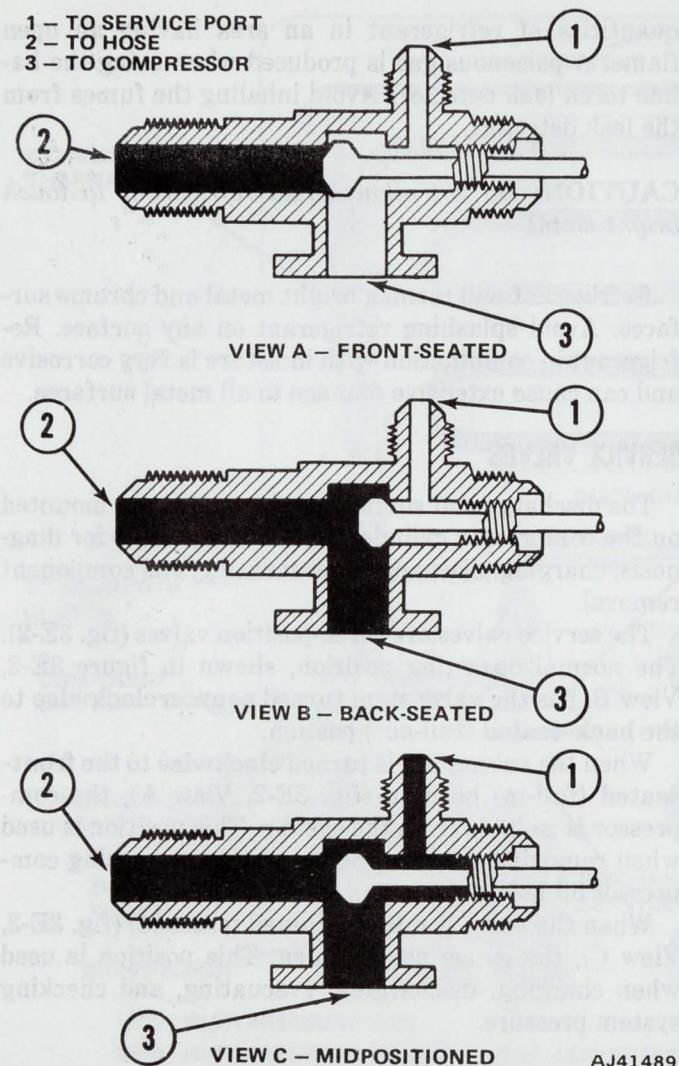
The Pressure Gauge and Manifold Assembly Tool J-23575 (fig. 3E-3), is the most important tool used to service the air conditioning system. The gauge assembly is used to determine system high and low side gauge pressures, the correct refrigerant charge, and in system diagnosis. It is designed to provide simultaneous high and low side pressure indications, because these pressures must be compared to determine correct system operation.

Low Side Gauge

The low side gauge is a compound gauge, which means that it will register both pressure and vacuum. The compound gauge is calibrated 0 to 150 psi pressure and 0 to 30 inches of mercury vacuum. It is connected to the suction service valve to check low side pressure or vacuum.

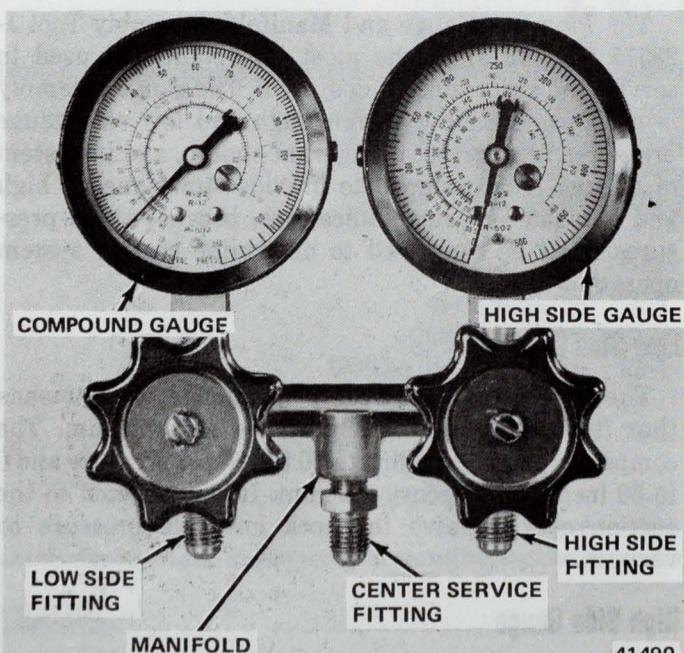
High Side Gauge

The high side gauge is used to check pressure in the discharge side of the air conditioning system.



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Fig. 3E-2 Service Valve Operating Positions



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Fig. 3E-3 Pressure Gauge and Manifold Assembly Tool J-23575

Manifold

The gauges are connected into the air conditioning system through a manifold (fig. 3E-3). The manifold has three connections. The low side hose and fitting is connected directly below the low side gauge. The high side hose and fitting is connected below the high side gauge.

The center connection of the manifold is used for charging, discharging, evacuating, and any other necessary service. Both the high and low sides of the manifold have hand shutoff valves. The hand shutoff valves open or close the respective gauge connections to the center service connection or to each other. The manifold is constructed so that pressure will be indicated on the gauges regardless of hand valve position.

Connecting the Pressure Gauge and Manifold Assembly

- (1) Remove protective caps from service valve gauge ports and valve stems.
- (2) Close both hand valves on gauge manifold set.
- (3) Connect compound gauge hose to compressor suction service valve gauge port (low side).
- (4) Connect high pressure gauge hose to discharge service valve gauge port (high side).

NOTE: If necessary, to facilitate installation of the gauge set, loosen the service valve-to-compressor fitting and **rotate the service valve slightly**. Do not allow line to contact engine or body components. Tighten the service valve-to-compressor fitting to 25 foot-pounds (33.9 Nm) torque or 15 foot-pounds (20.3 Nm) torque for flange type service valve screws.

(5) Set both service valve stems to mid or cracked position. The gauges will indicate high and low side pressure respectively.

(6) Purge any air from high side test hose by opening high side hand valve on manifold for 3 to 5 seconds (center connection on manifold must be open).

(7) Purge any air from low side test hose by opening low side hand valve on manifold for 3 to 5 seconds (center connection on manifold must be open).

(8) Air conditioning system may be operated with gauge manifold assembly connected in this manner. Gauges will indicate respective operative pressures.

CHECKING SYSTEM PRESSURES

The pressure developed on the high side and low side of the compressor indicate whether the system is operating properly.

- (1) Attach pressure gauge and manifold assembly.
- (2) Close both hand valves on gauge and manifold assembly.
- (3) Set both service hand valve stems to midposition.
- (4) Operate air conditioning system with engine running at 1500 rpm and controls set for full cooling but not into the MAX or COLD detent.

(5) Insert thermometer into discharge air outlet and observe air temperature.

(6) Observe high and low side pressures and com-

pare with those shown in the Normal Operating Temperatures and Pressures chart. If pressures are abnormal, refer to Pressure Diagnosis chart.

Normal Operating Temperatures and Pressures

Relative Humidity (percent)	Surrounding Air Temperature (° F)	Engine Speed (RPM)	Maximum Desirable Center Register Discharge Air Temp. (° F)	Suction Pressure PSI (REF)	Head Pressure PSI (+25 PSI)
20	70	1500	40	11	177
	80		41	15	208
	90		42	20	226
	100		43	23	255
30	70	1500	40	12	181
	80		41	16	214
	90		42	22	234
	100		44	26	267
40	70	1500	40	13	185
	80		42	18	220
	90		43	23	243
	100		44	26	278
50	70	1500	40	14	189
	80		42	19	226
	90		44	25	251
	100		46	27	289
60	70	1500	41	15	193
	80		43	21	233
	90		45	25	259
	100		46	28	300
70	70	1500	41	16	198
	80		43	22	238
	90		45	26	267
	100		46	29	312
80	70	1500	42	18	202
	80		44	23	244
	90		47	27	277
	100		—	—	—
90	70	1500	42	19	206
	80		47	24	250
	90		48	28	284
	100		—	—	—

*Operate engine with transmission in neutral. Keep car out of direct sunlight.

SIGHT GLASS

A sight glass is incorporated in the receiver-to-evaporator hose at the receiver end (fig. 3E-4). The sight glass provides a visual check of the system refrigerant level. A continuous stream of bubbles will appear in the sight glass of a system which is not properly charged. Properly charged and completely discharged systems will appear similar through the sight glass because of a lack of bubbles. To distinguish between the two situations, cycle the magnetic clutch OFF and ON with the engine running at 1500 rpm. During the time the clutch is off, bubbles will appear if the refrigerant is in the system and will disappear when the clutch is on. If no bubbles appear when cycling the magnetic clutch, there is no refrigerant in the system since some bubbles would appear in a fully charged system. If the system is discharged, it will be necessary to leak test, repair as required, evacuate, and charge the system.

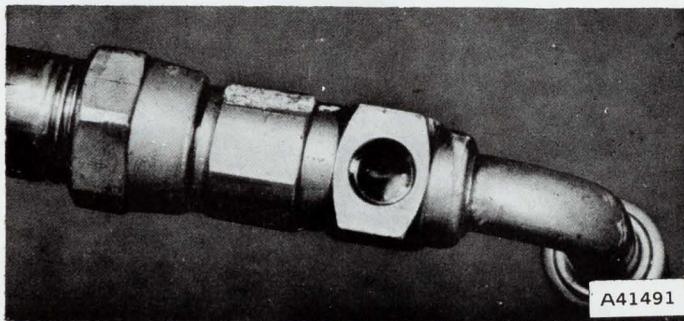


Fig. 3E-4 Sight Glass

DISCHARGING SYSTEM

Refrigerant should be discharged from the system before replacing any part in the system except the compressor.

- (1) Connect pressure gauge and manifold assembly to proper service valves.
- (2) Turn both manifold hand valves to maximum counterclockwise (open) position.
- (3) Open both service valves a slight amount (from back seated position) and allow refrigerant to discharge slowly from system (fig. 3E-5).

CAUTION: Do not allow the refrigerant to rush out, as the oil in the compressor will be forced out along with it.

EVACUATING SYSTEM

A system with the refrigerant removed during repair, or one that is excessively low on refrigerant must be evacuated with a vacuum pump before new refrigerant is installed. The reason for evacuating a system is to remove any air and moisture that may have entered the system.

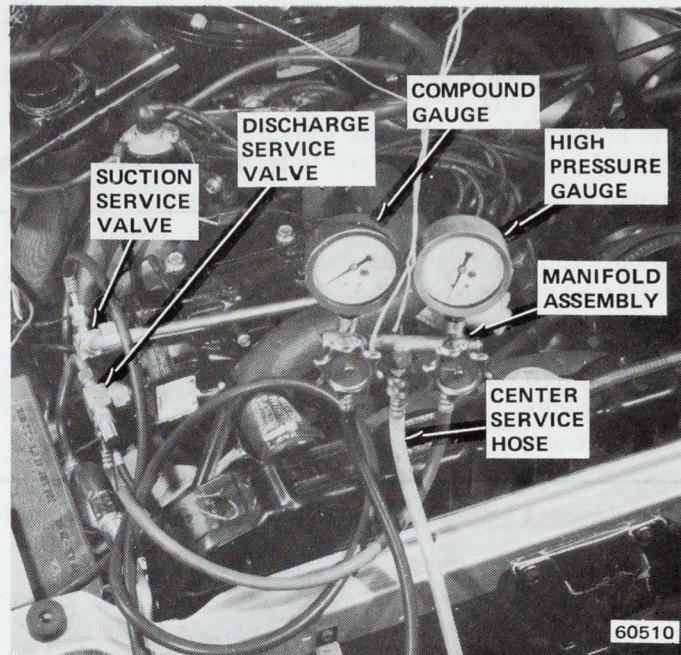


Fig. 3E-5 Pressure Gauge and Manifold Assembly
Connections for Discharging System

Moisture in any quantity is extremely harmful to the air conditioning system. Moisture may collect and freeze in the thermostatic expansion valve orifice, blocking refrigerant flow and preventing system cooling. Moisture will also react with R-12 to form hydrochloric acid which will corrode metal parts of the system. Corrosion particles may become detached and block the small passages and orifices in the system.

Unwanted air and moisture are removed from the system by proper evacuation of the system. A vacuum pump is used to lower the pressure sufficiently so that moisture boiling temperature is reduced to a point where the water will vaporize and can be evacuated from the system.

Water boils at 212°F at 14.7 psi (sea level). As the vacuum pump lowers the pressure of the closed air conditioning system, the boiling point of the moisture in the system will also be lowered. In evacuating the system, it is necessary to lower the boiling point of any moisture in the system to a point lower than the ambient (surrounding) temperature to ensure that all moisture is boiled off. At an ambient temperature of 75°F, when the desired vacuum of 29.5 inches of Hg is reached, water will boil at approximately 54°F and a complete boiling off of all moisture in the system is assured when this vacuum reading has been reached.

At altitudes higher than sea level, it will not be possible to obtain a vacuum reading of 29.5 inches of Hg on the low side compound gauge. For each 1,000 feet of altitude, the vacuum gauge must be corrected by one inch of Hg to compensate for a change in atmospheric pressure. For example, at altitudes of 1,000 feet, a gauge reading of 28.5 inches of Hg will be the same as a gauge

reading of 29.5 inches of Hg at sea level. When this vacuum is reached, a minimum of 30 minutes should be allowed in evacuating the system to ensure complete moisture removal.

Evacuating Procedure with J-26695 Vacuum Pump

The J-26695 vacuum pump and motor is a self-contained unit equipped with a carrying handle and stand. The unit must be kept upright at all times to prevent oil from spilling.

(1) Connect Pressure Gauge and Manifold Assembly Tool J-23575.

(2) Discharge system.

(3) Connect center service hose to inlet fitting of vacuum pump (fig. 3E-6).

(4) Open both manifold hand valves wide open.

(5) Start vacuum pump; note compound gauge reading.

(6) Operate pump a MINIMUM of 30 minutes after reaching lowest vacuum.

(7) Test system for leaks. Close both manifold hand valves, turn off vacuum pump, and note compound gauge reading. Gauge needle should remain stationary at point at which pump was turned off.

(8) If gauge needle returns to zero rapidly, install a partial charge in system and locate leak with leak detector. Repair leak and repeat evacuation procedure.

(9) If gauge needle remains stationary and vacuum is maintained for 3 to 5 minutes, resume evacuation for minimum of 30 minutes.

(10) Close both manifold hand valves and stop vacuum pump.

(11) Disconnect center service hose from vacuum pump. System is now ready for charging.

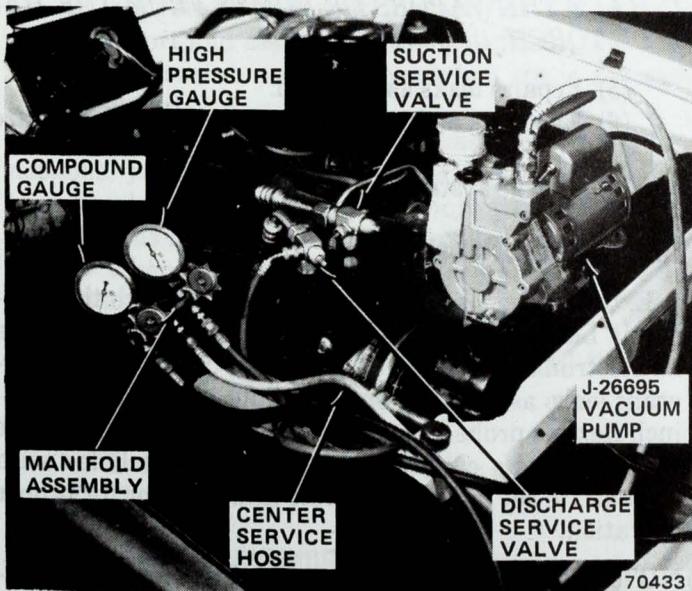


Fig. 3E-6 Evacuating System with J-26695 Vacuum Pump

Evacuation Procedure with J-23500-01 Portable Air Conditioning Service Station

The J-23500-01 Portable Air Conditioning Service Station (fig. 3E-7) is a completely portable station equipped with vacuum pump, metering-charging cylinder, refrigerant supply, gauges, hoses and hand control valves.

The control switch for the vacuum pump is mounted on the front of the charging station. It should be in the OFF position before inserting plug into the power source.

NOTE: Be certain system is completely depressurized before evacuating. With the system under pressure, refrigerant may enter vacuum pump and damage the pump

(1) Close all hand valves.

(2) Connect red charging hose to discharge service valve port on compressor.

(3) Connect blue charging hose to suction service valve port on compressor.

(4) Discharge system, leaving suction and discharge service valves in the mid or cracked position.

(5) Connect vacuum pump hose to vacuum pump inlet.

(6) Open low-pressure hand control valve and high-pressure hand control valve on charging station.

(7) Start vacuum pump and open vacuum control valve; note compound gauge reading.

(8) Operate pump a minimum of 30 minutes after reaching lowest vacuum.

(9) Fill charging cylinder, as described below, while system is evacuating.

(10) Close vacuum control valve and stop vacuum pump. Observe blue compound gauge to determine if a leak exists. System is now ready for charging.

CHECKING FOR LEAKS

Whenever a system requires more than 1/2 pound of refrigerant after a season's operation, a serious leak is indicated which must be located and repaired.

Most leaks will be located at points of connection and are caused by vehicle vibration. Correction of this type of leak may only require retightening of the connection. However, some leaks may occur only at periods of high traffic on a very warm day. This type of leak most often occurs through the compressor shaft seal or service valve gasket.

A system must contain an adequate quantity of refrigerant to be properly leak tested. If a system is completely discharged, evacuate and install 1/2 pound of refrigerant.

Halide Torch Leak Detection

External leaks are detected and located with a Halide Torch Tool J-6084 (fig. 3E-8). The torch burns propane

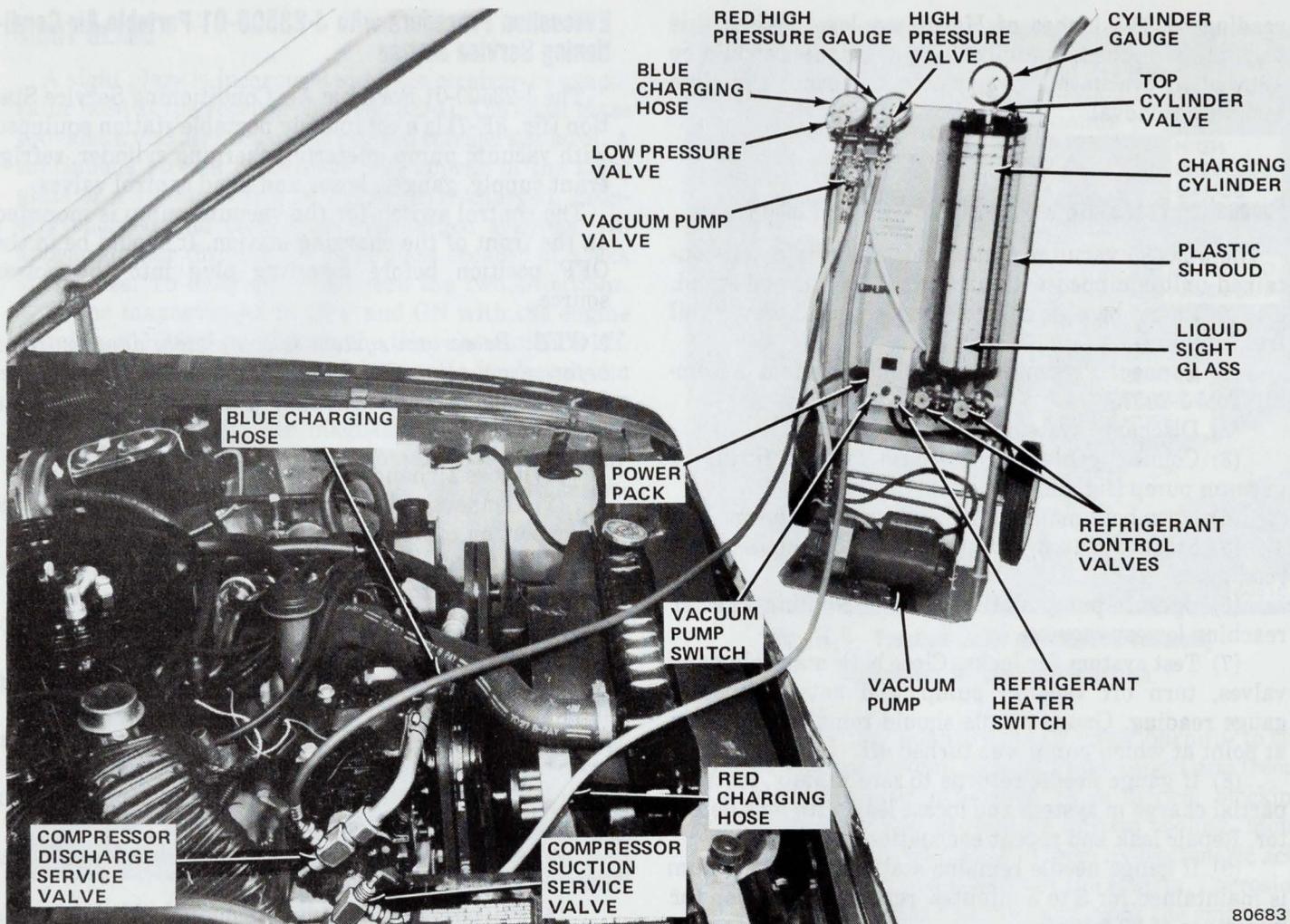


Fig. 3E-7 Portable Air Conditioning Service Station J-23500-01

fuel and is equipped with a search hose. When air is drawn into the hose by the torch, it contacts a heated copper reactor ring in the torch. If refrigerant gas is present in the air, the normally light blue flame will change color. A small refrigerant leak will change the flame color to yellow. A large refrigerant leak will change it to green or purplish-blue.

Leak Test Procedure Using Halide Torch

(1) Open torch valve and light torch, adjusting flame just high enough to heat copper reactor ring to a cherry red.

(2) Lower flame until it is about 1/4 inch above or even with copper reactor ring. Smaller flame is more sensitive to refrigerant.

(3) Move search hose slowly **under** all connections, joints and seals. Because refrigerant is heavier than air, leaks may be more readily detected on lower side of areas being checked.

(4) Watch for color change of flame indicating area of leak.

WARNING: When R-12 refrigerant comes into contact with an open flame, phosgene gas is formed. NEVER INHALE THE VAPORS OR FUMES FROM THE HALIDE TORCH; they are poisonous.

- (5) Repairs leaks as required.
- (6) Evacuate and leak-test system after all leaks are corrected.
- (7) Charge system.

Electronic Leak Detection

External leaks are detected and located with the Electronic Leak Detector Tool J-26933. The leak detector is an electronic instrument designed to detect R-12 refrigerant leaks as small as one-half ounce per year. The 18-inch flexible probe gets at inaccessible places. Follow the manufacturer's calibration instructions, included with the unit, to set up the electronic leak detector for proper operation.

NOTE: Using the Electronic Leak Detector Tool J-26933, will NOT expose the user to phosgene gas vapors or fumes.

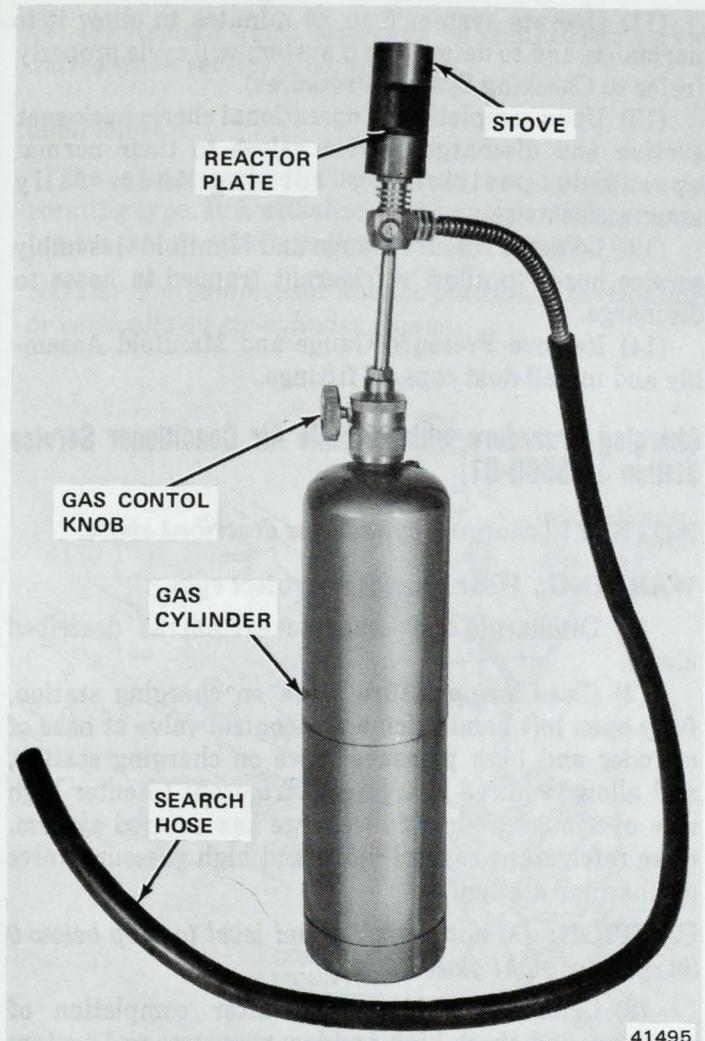


Fig. 3E-8 Halide Torch Tool J-6084

Leak Test Procedure Using Electronic Detector

- (1) Unwind flexible probe from case.
- (2) Activate Off/On switch, place flexible probe tip near leak port and adjust BAT thumbwheel a few teeth until light goes on and goes out when tip is removed from leak port.
- (3) Move flexible probe slowly **under** suspected connections, joints, and seals. R-12 refrigerant is heavier than air, leaks may be detected more readily on lower side of areas being checked.
- (4) When a leak is found, its presence will be indicated by white signal light.

NOTE: If probe tip is held too long on the leak, the white signal light will go out.

- (5) Repair leaks, as required.
- (6) Evacuate system after all leaks are corrected.
- (7) Charge system.

FILLING CHARGING CYLINDER

- (1) Be certain refrigerant drum is inverted and valve is open.

(2) Open right hand valve at base of charging cylinder and fill with required amount of refrigerant to charge system (refer to Charge Capacity). Liquid refrigerant will be observed rising in charging cylinder sight glass.

(3) Crack open valve at top of cylinder when pressure in charging cylinder equals pressure in supply tank. This relieves head pressure and allows refrigerant to continue filling cylinder.

(4) Observe pressure gauge at top of cylinder and rotate plastic shroud until pressure heading column corresponds with gauge pressure in line with sight glass.

NOTE: If pressure gauge at top of cylinder reads, for example, 70 psi, find the column with the pressure heading of "70" and rotate shroud so the "70" column aligns with the sight glass.

(5) When refrigerant reaches desired level in sight glass, close both the right hand valve at base of cylinder and refrigerant drum valve. Be certain top cylinder valve is fully closed.

NOTE: If bubbling occurs in sight glass, tilt charging station back momentarily.

(6) Connect heating element cord to heating element receptacle of power pack and switch ON heater. Allow refrigerant to heat (building up pressure proportionately) for about 10 minutes while vacuum pump is running.

CHARGING SYSTEM

Before making a complete charge, check the compressor oil level, leak test if necessary, and evacuate the system.

Charge Capacity

The recommended charge for the respective systems is as follows: Pacer—2-1/8 pounds R-12; Gremlin, Concord and AMX—2 pounds R-12; Matador—3 pounds R-12. Capacities are also indicated on a decal attached to compressor.

Charging Procedure with Multi-Refrigerant Can Opener Tool J-6272-02

The following charging procedure is based on the use of Pressure Gauge and Manifold Assembly Tool J-23575, and Multi-Refrigerant Can Opener Tool J-6272-02. Refer to figure 3E-9.

WARNING: Wear goggles to protect eyes.

- (1) Connect Pressure Gauge and Manifold Assembly J-23575 and evacuate system. Keep both service valves in mid or cracked position.

- (2) Close both gauge hand valves.

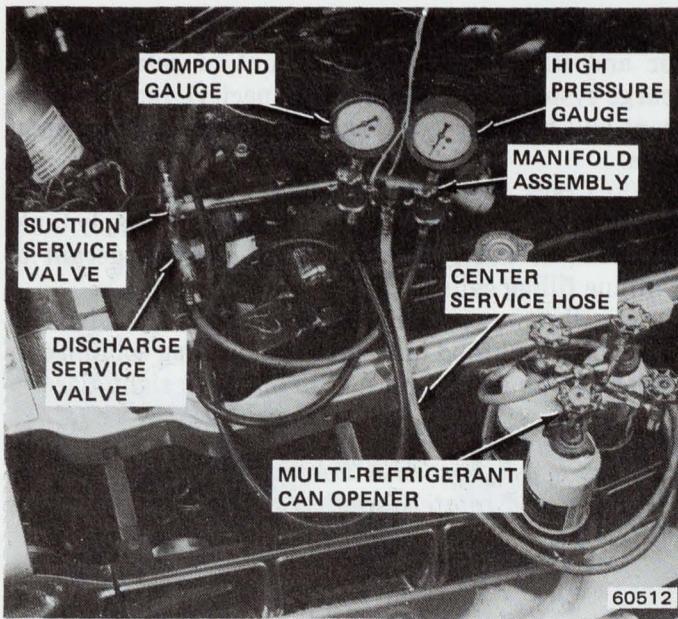


Fig. 3E-9 Charging System with Multi-Refrigerant Can Opener Tool J-6272-02

(3) Disconnect service hose from vacuum pump and connect it to center of Multi-Refrigerant Can Opener J-6272-02. Close four petcock valves on dispenser.

(4) Attach necessary number of refrigerant cans to opener. Refer to Charge Capacity for proper weight of refrigerant necessary to charge car being serviced.

(5) Open one petcock valve. Loosen center service hose at Pressure Gauge and Manifold Assembly allowing refrigerant to purge air from line. Tighten service hose connection and close petcock valve.

(6) Open suction (compound) gauge hand valve and one petcock valve. Do not open discharge (high pressure) gauge hand valve.

(7) Start engine and place air conditioning controls in maximum cooling position. The compressor will operate and help pull refrigerant gas into suction side of system.

NOTE: The refrigerant cans may be placed upright in warm water NO HOTTER THAN 125°F to speed up the charging process.

(8) When first refrigerant can is empty, open another petcock valve to continue charging system.

(9) Continue charging until specified amount of refrigerant is in system. The frost line on refrigerant can will indicate what portion of refrigerant in can has entered system. This may be used as a guide when a system requires a fraction of a full can.

NOTE: If an accurate scale is available, weigh the refrigerant cans before and during the charging procedure to assure that the correct amount of refrigerant is being used.

(10) When system is fully charged, close suction (compound) gauge hand valve and all petcock valves.

(11) Operate system 5 to 10 minutes to allow it to normalize and to determine if system will cycle properly (refer to Checking System Pressures).

(12) Upon completion of operational check, back-seat suction and discharge service valves to their normal operating position by turning them fully counterclockwise.

(13) Loosen Pressure Gauge and Manifold Assembly service hoses to allow refrigerant trapped in hoses to discharge.

(14) Remove Pressure Gauge and Manifold Assembly and install dust caps on fittings.

Charging Procedure with Portable Air Conditioner Service Station J-23500-01

NOTE: Fill charging cylinder as described above.

WARNING: Wear goggles to protect eyes.

(1) Discharge and evacuate system as described above.

(2) Close low pressure valve on charging station, fully open left hand refrigerant control valve at base of cylinder and high pressure valve on charging station, and allow required charge of refrigerant to enter high side of system. When full charge has entered system, close refrigerant control valve and high pressure valve on charging station.

CAUTION: Do not permit liquid level to drop below 0 on cylinder sight glass.

(3) Close manifold gauges after completion of charging, and check high and low pressures and system operation.

CAUTION: Read gauges with high and low pressure valves on charging station closed. The low pressure gauge could be damaged if both high and low pressure valves of manifold are opened. The high pressure developed in discharge side (high side) of compressor would peg indicator needle of low pressure gauge and damage the gauge.

(4) Close all valves on charging station and close refrigerant drum valve when all operations are completed.

(5) Upon completion of operational check, back-seat suction and discharge service valves to their normal operating position by turning them fully counterclockwise.

(6) Disconnect high and low pressure charging hoses from compressor with care. (A small amount of refrigerant remaining in hoses will escape.) Replace charging hoses on hose holder on charging station to keep air and dirt out of hoses.

(7) Open valve at top of cylinder to remove remaining refrigerant.

NOTE: The charging cylinder is not designed to store refrigerant.

(8) Replace quick seal caps on compressor service valves when service is completed.

COMPRESSOR

The compressor is the belt-driven, two-cylinder reciprocating type. It is attached to the engine with a mounting bracket as shown in figures 3E-10 and 3E-11.

NOTE: The compressor may be positioned horizontally or vertically on six-cylinder engines.

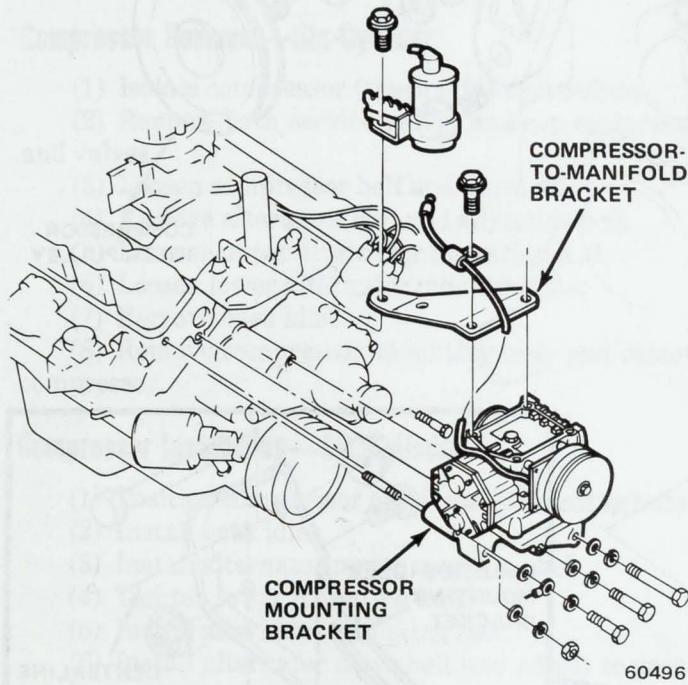


Fig. 3E-10 Compressor Mounting—Eight-Cylinder

Compressor Valve Leak Diagnosis

The compressor should be at operating temperature to perform an accurate test.

(1) Install Pressure Gauge and Manifold Assembly J-23575.

(2) Front-seat the suction and discharge service valve by turning them clockwise.

(3) Discharge refrigerant remaining in compressor by opening suction gauge hand valve **slowly**.

(4) Open suction gauge hand valve and close the high pressure gauge hand valve.

(5) Start engine and operate compressor. Pressure will build up rapidly. Stop engine/compressor at 150 to 200 pounds pressure.

NOTE: Pressure should hold if the discharge valve is operating properly. Loss of pressure indicates leaking compressor discharge valve or head gasket.

Compressor Belt Tension

Belt tensions are important and should be inspected at time of new car pre-delivery and at subsequent sched-

uled maintenance intervals.

Belt Tension Gauge, Tool J-23600, will provide accurate belt tension adjustments. Install the gauge on the longest accessible belt span. Belt tension for new car pre-delivery and all belts with previous service should be 90 to 115 pounds.

Six-cylinder belt tension is adjusted by the idler mounting bracket. Eight-cylinder belt tension is adjusted by the alternator.

When a replacement belt is installed, it should be adjusted to 125 to 155 pounds (155 preferred) tension to compensate for the initial run-in loss that occurs within the first several minutes of operation.

NOTE: New belt tension specifications apply only to service replacement belts. Once a belt has been tensioned and run, it is considered a used belt and should be adjusted to used-belt specifications.

A characteristic of the **Dacron type belt(s)** used to drive the AC compressor is that it tends to increase in tension—rather than stretch—when subjected to heat. The loss in belt tension which can be observed after the initial run-in is the result of wear-in which allows the belt to ride deeper in the V-groove of the pulleys.

If a belt is run with less than the specified tension, slippage can occur and cause the belt contact surfaces to become glazed. A glazed belt loses some of its load carrying capabilities and may slip even when adjusted to specified belt tension.

Belt vibration, particularly on six-cylinder engine models, is usually the result of improper belt tension. When excessive belt vibration or flutter is encountered, adjust the belt tension to specifications. Adjusting to higher tensions will not stop vibration but will increase stress on the idler assembly.

Isolating the Compressor

It is not necessary to discharge the system for compressor removal. The compressor can be isolated from the remainder of the system, eliminating the need for recharging when performing compressor service.

(1) Connect Pressure Gauge and Manifold Assembly J-23575.

(2) Close both gauge hand valves and mid-position (crack) both service valves.

(3) Start engine and operate air conditioning.

(4) Turn the suction service valve slowly clockwise toward the front-seated position. When suction pressure is reduced to zero or less, stop engine and compressor and quickly finish front-seating the suction service valve.

(5) Front-seat the discharge service valve.

(6) Loosen oil check plug slowly to release any internal pressure in compressor. The compressor is now isolated from the remainder of the system. Service valves can be removed from compressor.

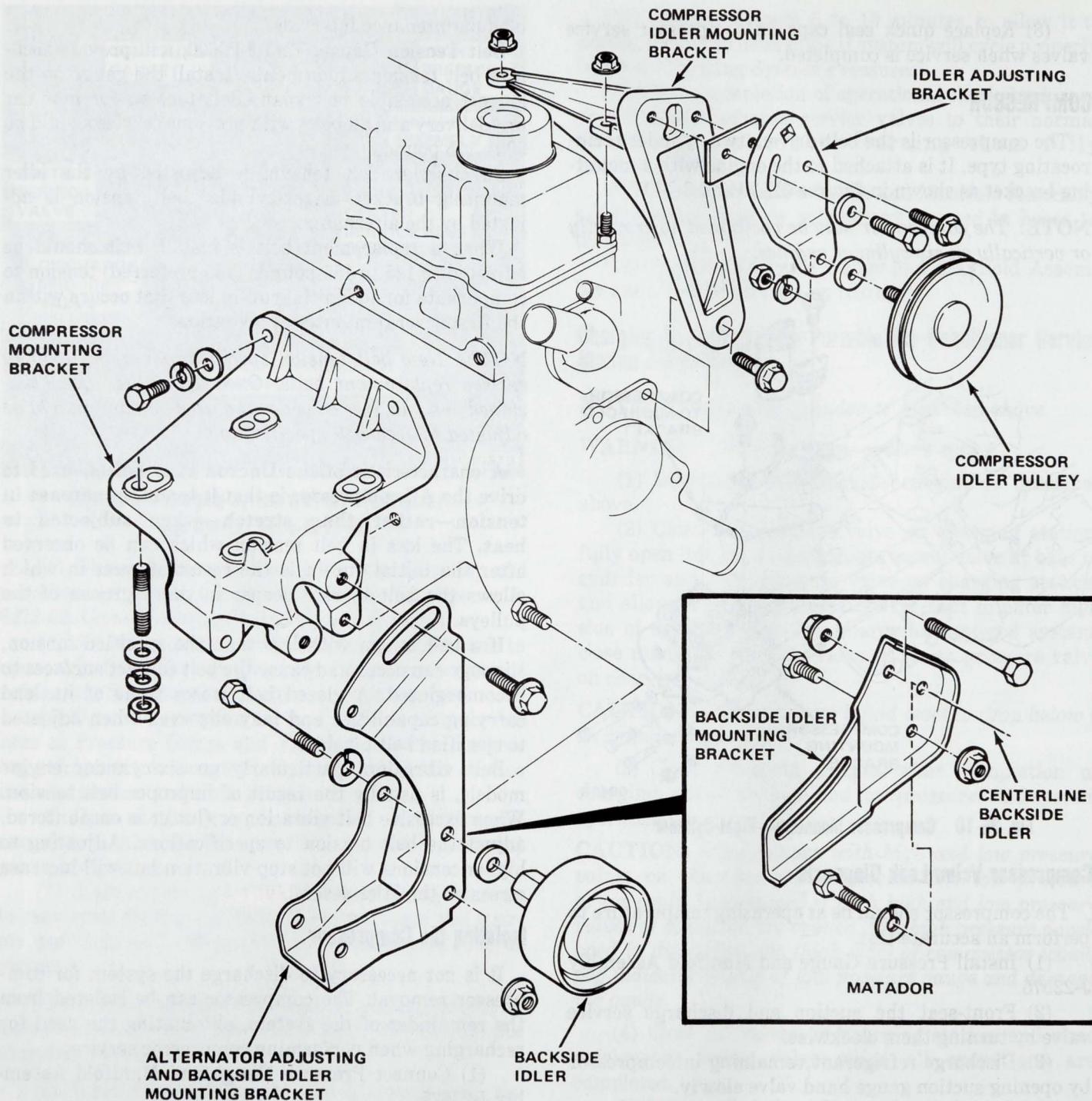


Fig.3E-11 Compressor Mounting—Typical Six-Cylinder

Compressor Removal—Eight-Cylinder

- (1) Isolate compressor (see previous procedure).
- (2) Remove both service valves and place protective caps over compressor head fittings and service valve openings.
- (3) Loosen and remove compressor belt(s).
- (4) Disconnect clutch wire.

NOTE: Remove alternator mounting bracket to obtain working clearance for removing compressor mounting bracket attaching bolts and nuts.

- (5) Remove compressor and mounting bracket as an assembly and place on work bench.
- (6) Remove bracket and bracket attaching nuts and studs.

Compressor Installation—Eight-Cylinder

- (1) Install mounting bracket to compressor.
- (2) Install compressor and bracket assembly to engine.
- (3) Install alternator mounting bracket, if removed.
- (4) Install compressor drive belt(s) and adjust to proper tension.
- (5) Attach compressor service valves and lines.
- (6) Purge compressor of air and open service valves.
- (7) Connect clutch wire.

Compressor Removal—Six-Cylinder

- (1) Isolate compressor (see previous procedure).
- (2) Remove both service valves and cap compressor and valves.
- (3) Loosen compressor belt and move aside.
- (4) Remove alternator belt and adjusting bolt.
- (5) Remove upper alternator mounting bolt.
- (6) Loosen lower alternator mounting nut.
- (7) Remove back idler.
- (8) Remove compressor mounting nuts and remove compressor.

Compressor Installation—Six-Cylinder

- (1) Position compressor and install mounting nuts.
- (2) Install back idler.
- (3) Install alternator upper mounting bolt.
- (4) Tighten lower mounting nut.
- (5) Install alternator adjusting bolt.
- (6) Install alternator drive belt and adjust to proper tension.
- (7) Install compressor drive belt and adjust to proper tension.
- (8) Attach compressor service valves and lines.
- (9) Purge compressor of air and open service valves.
- (10) Connect clutch wire.

Compressor Front Seal Replacement

The compressor front seal is serviced in kit form. Kit components are shown in figure 3E-12. All seal parts must be replaced if a leak has been detected at the seal.

NOTE: A small amount of oil around the shaft seal is normal and does not indicate a seal leak. All seal parts were dipped in oil at the time of assembly and operation may force out surplus oil.

- (1) Isolate compressor.
- (2) Remove belt.
- (3) Remove clutch and woodruff key from compressor shaft.
- (4) Remove seal plate capscrews. Pry seal plate loose and remove.
- (5) Carefully pry behind spring holder (that part of the seal assembly farthest back on the shaft) and remove seal assembly.

- (6) Lubricate new seal assembly with clean refrigeration oil.

NOTE: Cleanliness, careful handling, and clean refrigeration oil are important for successful seal replacement.

- (7) Push neoprene friction ring and spring holder over compressor shaft.
- (8) Move assembly in and out on the compressor shaft to seat neoprene friction ring.
- (9) Push assembly in until spring holder contacts bearing race. Position carbon ring in spring holder with polished side facing out.

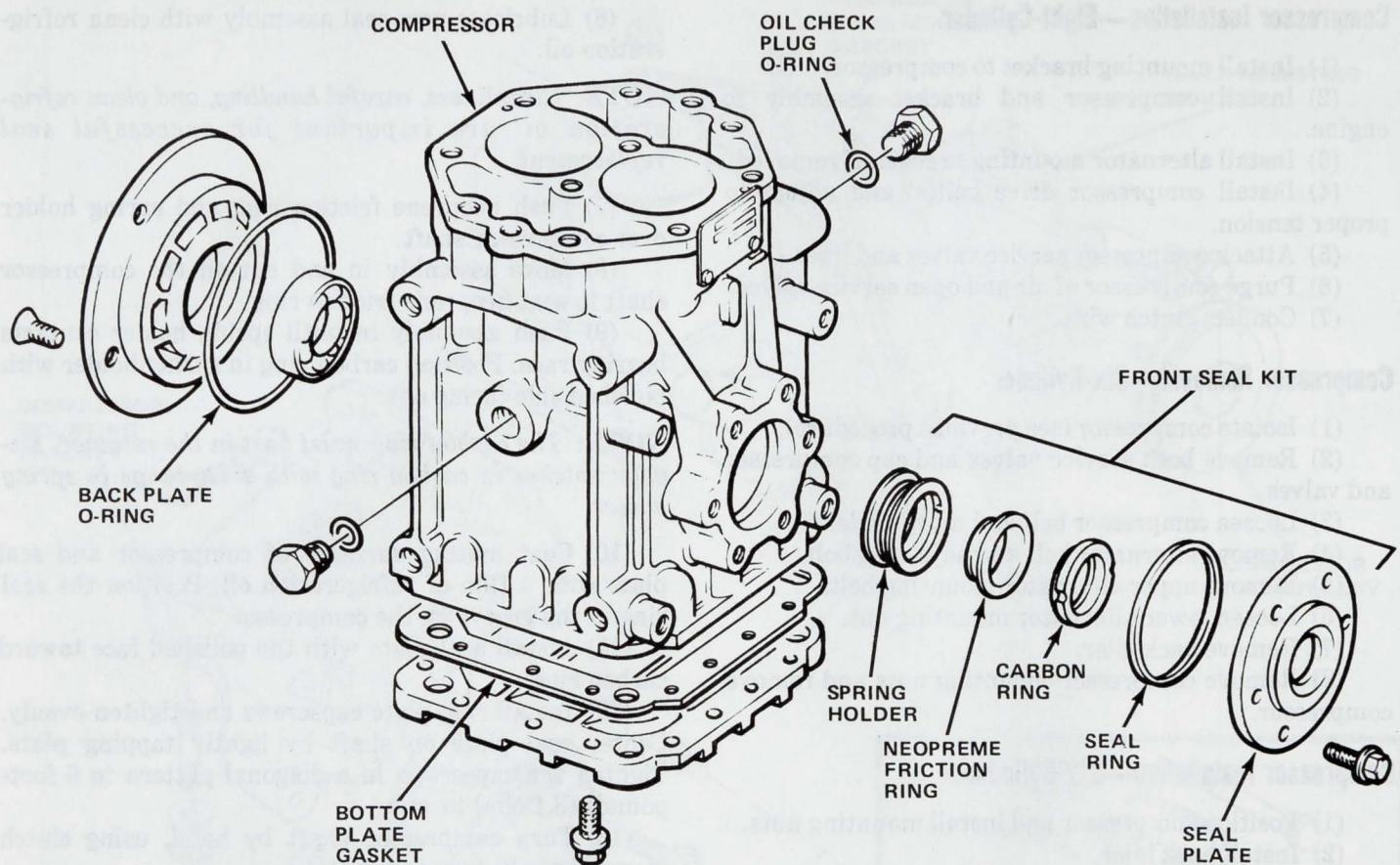
NOTE: The carbon ring must seat in the retainer. Engage notches in carbon ring with drive tangs in spring holder.

- (10) Coat mating surfaces of compressor and seal plate with a film of refrigeration oil. Position the seal ring in the groove on the compressor.
- (11) Install seal plate with the polished face toward carbon ring.
- (12) Install seal plate capscrews and tighten evenly. Center seal plate on shaft by lightly tapping plate. Tighten the capscrews in a diagonal pattern to 6 foot-pounds (8.1 Nm) torque.
- (13) Turn compressor shaft by hand, using clutch mounting bolt, to seat the seal.
- (14) Install clutch and woodruff key.
- (15) Install belt.
- (16) Purge compressor of air.
- (17) Leak test system. Evacuate and charge if necessary.

Back Plate O-Ring Seal Replacement

NOTE: It is not necessary to remove the compressor for seal replacement on six-cylinder engines.

- (1) Isolate and remove compressor.
- (2) Remove four back plate attaching screws using Torx Bit Tool J-25359-02.
- (3) Remove back plate by gently prying it loose from crankcase. Pry in such a manner to pull parallel to bearing surface.
- (4) Remove O-ring seal from back plate.
- (5) Clean back plate and apply a light film of refrigeration oil to O-ring sealing area.
- (6) Position O-ring seal on back plate and install back plate over rear bearing and into the crankcase.
- (7) Install four back plate attaching screws and tighten in a diagonal pattern to 13 foot-pounds (17.6 Nm) torque.
- (8) Install and purge compressor of air.
- (9) Leak test system. Evacuate and charge if necessary.



AJ41500

Fig. 3E-12 Compressor Seal Components and Gaskets

Head, Valve Plate and Gasket Replacement

- (1) Isolate compressor.
- (2) Remove service valves from compressor. The compressor head service valve ports are identified as **D** for discharge and **S** for suction.
- (3) Remove compressor head attaching screws.
- (4) Tap under valve plate ears (short, half-round projections on the valve plate) to remove head and valve plate.
- (5) Tap valve plate ears while holding the compressor head to separate head from valve plate.
- (6) Clean all gasket material from head, valve plate, and compressor using care not to scratch or nick the sealing surfaces.
- (7) Coat all machined sealing surfaces with a light film of refrigeration oil.
- (8) Install new valve plate cylinder gasket on compressor body, locating gasket on dowel pins.
- (9) Install valve plate on compressor, locating it on the dowel pins so that discharge valve is at top. Figure 3E-13 shows the correct assembly sequence.
- (10) Install replacement head gasket, locating it on dowel pins.

(11) Install head. Tighten compressor head cap-screws to 15 foot-pounds (20.3 Nm) torque, following sequence outlined in figure 3E-14.

(12) Coat service valve ports with a light film of refrigeration oil and install new service valve O-rings or gaskets, as required.

(13) Install service valves and tighten to 28 foot-pounds (38 Nm) torque for O-ring type valve or 15 foot-pounds (20.3 Nm) torque for attaching screws of flange type valve.

(14) Purge compressor of air.

(15) Leak test system. Evacuate and charge if necessary.

Bottom Plate Gasket Replacement

- (1) Isolate and remove compressor.
- (2) Remove bottom plate attaching screws and carefully remove bottom plate.
- (3) Clean all gasket material from bottom plate and compressor using care not to scratch or nick the sealing surfaces.
- (4) Coat all sealing surfaces with a light film of refrigeration oil.

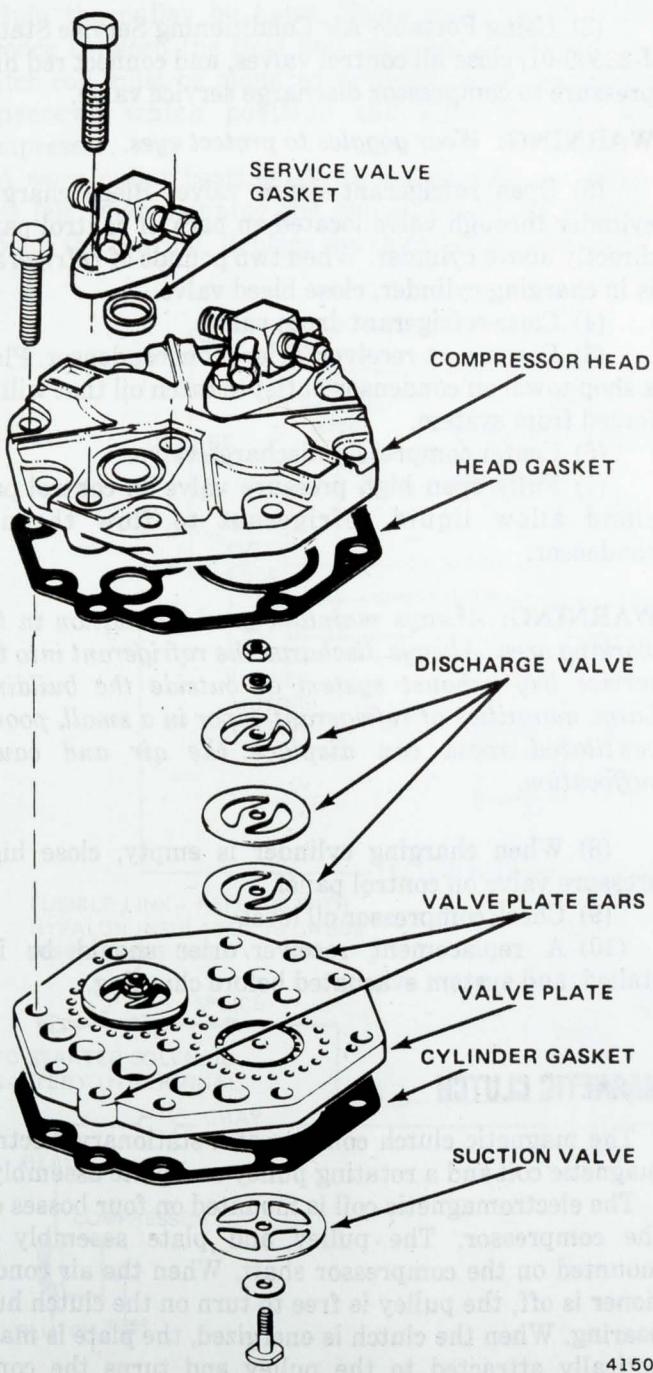
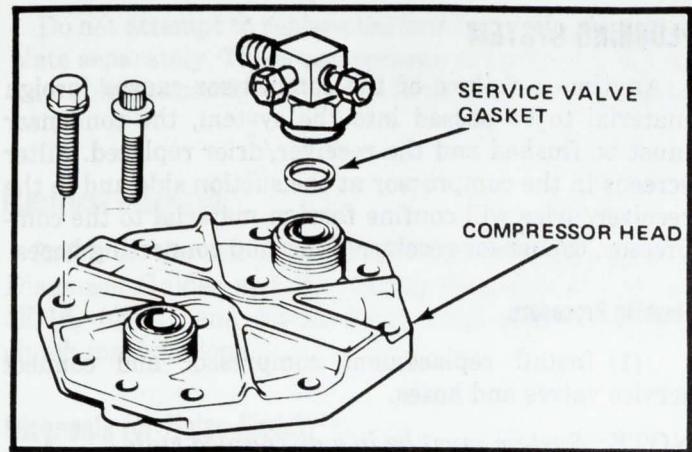


Fig. 3E-13 Head and Valve Plate Assembly Sequence 41501

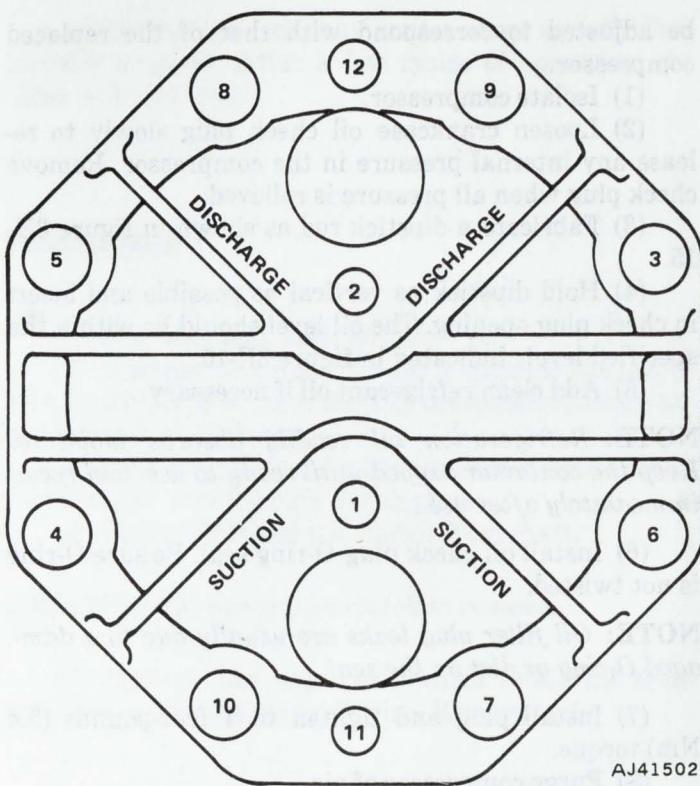


Fig. 3E-14 Compressor Head Capscrew Tightening Sequence AJ41502

(5) Install a new bottom plate gasket and install bottom plate. Tighten the bottom plate attaching screws to 15 foot-pound (20.3 Nm) torque.

(6) Install and purge compressor of air.

(7) Leak test system. Evacuate and charge if necessary.

Checking Compressor Oil Level

Initially, the compressor has 7 ounces of refrigeration oil in the crankcase (Approved oil: Sun Oil Suniso 5, Texaco Capella E, or equivalent). In normal operation, a small amount of oil is always circulating with the refrigerant in the system. Unless the system has developed a leak, the oil level will remain the same in the system.

CAUTION: The oil level should be checked whenever the system is discharged for a service part replacement, and especially after a rapid loss of refrigerant has occurred.

NOTE: Check compressor oil level with compressor in operating position, and only after the car interior air has been cooled to the desired temperature. Operating the system stabilizes the oil entrained in the system, and provides an accurate oil level reading. The oil check plugs are located on either side of the compressor crankcase.

Before installing a replacement compressor, check the oil level in the compressor to be replaced prior to removing it. The oil level in the replacement compressor must

be adjusted to correspond with that of the replaced compressor.

- (1) Isolate compressor.
- (2) Loosen crankcase oil check plug slowly to release any internal pressure in the compressor. Remove check plug when all pressure is relieved.
- (3) Fabricate a dipstick rod as shown in figure 3E-15.
- (4) Hold dipstick as vertical as possible and insert in check plug opening. The oil level should be within the specified levels indicated in figure 3E-15.
- (5) Add clean refrigerant oil if necessary.

NOTE: Refrigeration oil readily absorbs moisture. Keep the container capped until ready to use, and recap immediately after use.

- (6) Install oil check plug O-ring seal. Be sure O-ring is not twisted.

NOTE: Oil filler plug leaks are usually due to a damaged O-ring or dirt on the seat.

- (7) Install plug and tighten to 4 foot-pounds (5.4 Nm) torque.

- (8) Purge compressor of air.

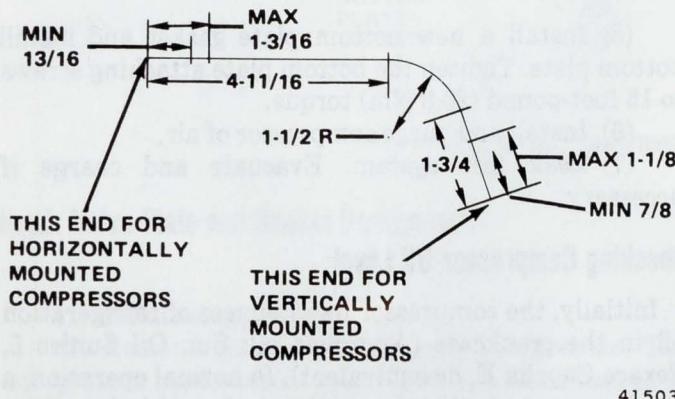


Fig. 3E-15 Oil Dipstick Fabrication Dimensions (inches)

Purging Compressor of Air

The compressor must be purged of air whenever it has been isolated for oil level check or other service procedures without discharging the entire system.

- (1) Cap service gauge ports on both service valves.
- (2) Back-seat the suction service valve to allow system refrigerant to enter compressor.
- (3) Place the discharge service valve in the mid- or cracked position.
- (4) Loosen discharge service valve gauge port cap to permit refrigerant to force any air out of the compressor.
- (5) Back-seat the discharge service valve and tighten the gauge port cap.

The compressor is now ready for service.

FLUSHING SYSTEM

Anytime a failure of the compressor causes foreign material to be passed into the system, the condenser must be flushed and the receiver/drier replaced. Filter screens in the compressor at the suction side and in the receiver/drier will confine foreign material to the compressor, condenser receiver/drier and connecting hoses.

Flushing Procedure

- (1) Install replacement compressor and connect service valves and hoses.

NOTE: System must be in a discharged state.

- (2) Using Portable Air Conditioning Service Station J-23500-01, close all control valves, and connect red high pressure to compressor discharge service valve.

WARNING: Wear goggles to protect eyes.

- (3) Open refrigerant drum valve. Bleed charging cylinder through valve located on back of control panel directly above cylinder. When two pounds of refrigerant is in charging cylinder, close bleed valve.

- (4) Close refrigerant drum valve.

- (5) Disconnect receiver/drier from condenser. Place a shop towel on condenser outlet to catch oil that will be forced from system.

- (6) Center compressor discharge valve.

- (7) Fully open high pressure valve on control panel and allow liquid refrigerant to flow through condenser.

WARNING: Always maintain good ventilation in the working area. Always discharge the refrigerant into the service bay exhaust system or outside the building. Large quantities of refrigerant vapor in a small, poorly ventilated room can displace the air and cause suffocation.

- (8) When charging cylinder is empty, close high pressure valve on control panel.

- (9) Check compressor oil level.

- (10) A replacement receiver/drier should be installed, and system evacuated before charging.

MAGNETIC CLUTCH

The magnetic clutch consists of a stationary electromagnetic coil and a rotating pulley and plate assembly.

The electromagnetic coil is mounted on four bosses on the compressor. The pulley and plate assembly is mounted on the compressor shaft. When the air conditioner is off, the pulley is free to turn on the clutch hub bearing. When the clutch is energized, the plate is magnetically attracted to the pulley and turns the compressor crankshaft.

Do not attempt to replace the bearing, pulley or clutch plate separately. These components are serviced only as a complete assembly. The coil is serviced as a separate unit.

Electrical Diagnosis

Refer to the Air Conditioner and Magnetic Clutch Diagnosis Guides and the wiring diagrams in figures 3E-16, 3E-17, and 3E-18 when diagnosing magnetic clutch malfunctions.

Diagnosis for Noisy Clutch

Spin the pulley by hand. There must be no interference between the field and the rotor assembly. The clutch coil must be mounted properly using the special capscrews which position the field coil to the compressor.

A worn pulley bearing can be detected by the roughness felt when spinning the pulley. Do not attempt to replace the bearing. Replace the clutch as an assembly.

A replacement clutch may emit a short squeal when initially engaged. After a few cycles of operation, the noise will disappear.

Clutch Removal

(1) Remove compressor belt(s).

(2) Energize the clutch or use a spanner wrench to hold clutch plate while removing the clutch-to-shaft attaching bolt and washer.

(3) Install a 5/8-inch by 11 standard thread bolt in the threaded center of the clutch plate.

(4) Tighten bolt and pull clutch from shaft.

CAUTION: Do not pry on clutch to remove.

(5) Remove four capscrews which retain the magnetic coil and disconnect coil wire. Remove coil.

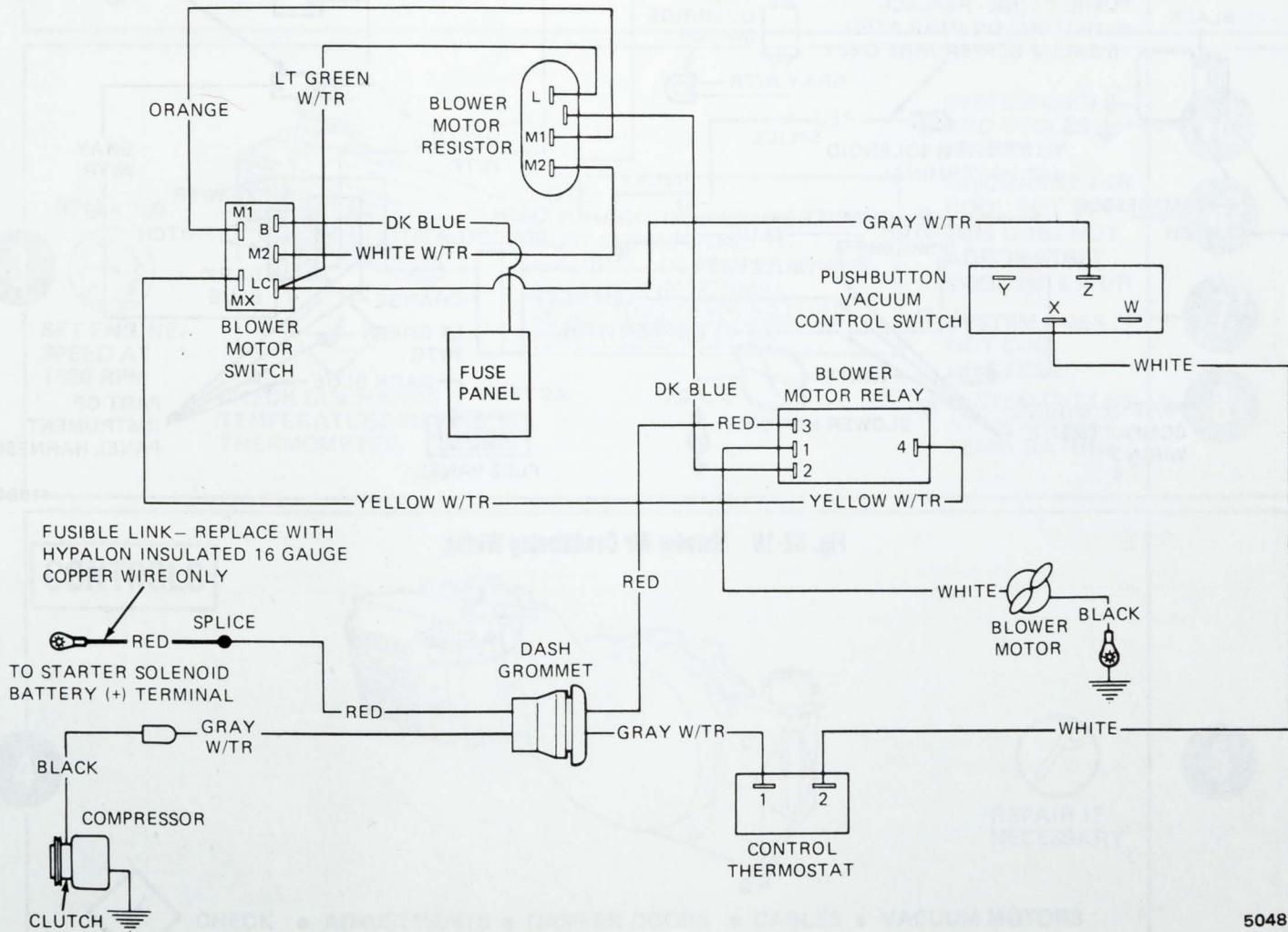


Fig. 3E-16 Pacer Air Conditioning Wiring

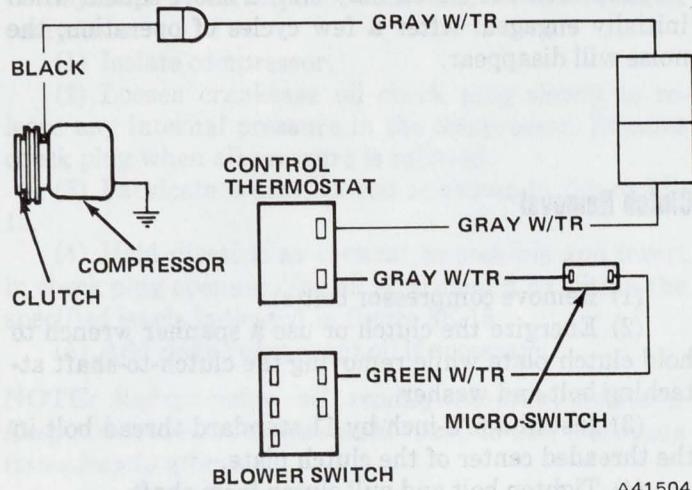


Fig. 3E-17 Gremlin-Concord-AMX Air Conditioning Wiring

Clutch Installation

- (1) Install magnetic coil with the four special cap-screws provided with the replacement unit. These cap-screws are used to ensure coil is positioned properly on the compressor.
- (2) Tighten capscrews to 7 foot-pounds (9.5 Nm) torque.
- (3) Align clutch assembly with key and install clutch on shaft.
- (4) Install clutch-to-shaft attaching washer and bolt and tighten to 20 foot-pounds (27.1 Nm) torque. Connect clutch coil wire and energize clutch to hold unit when tightening.
- (5) Install compressor belt and adjust belt tension to specifications.

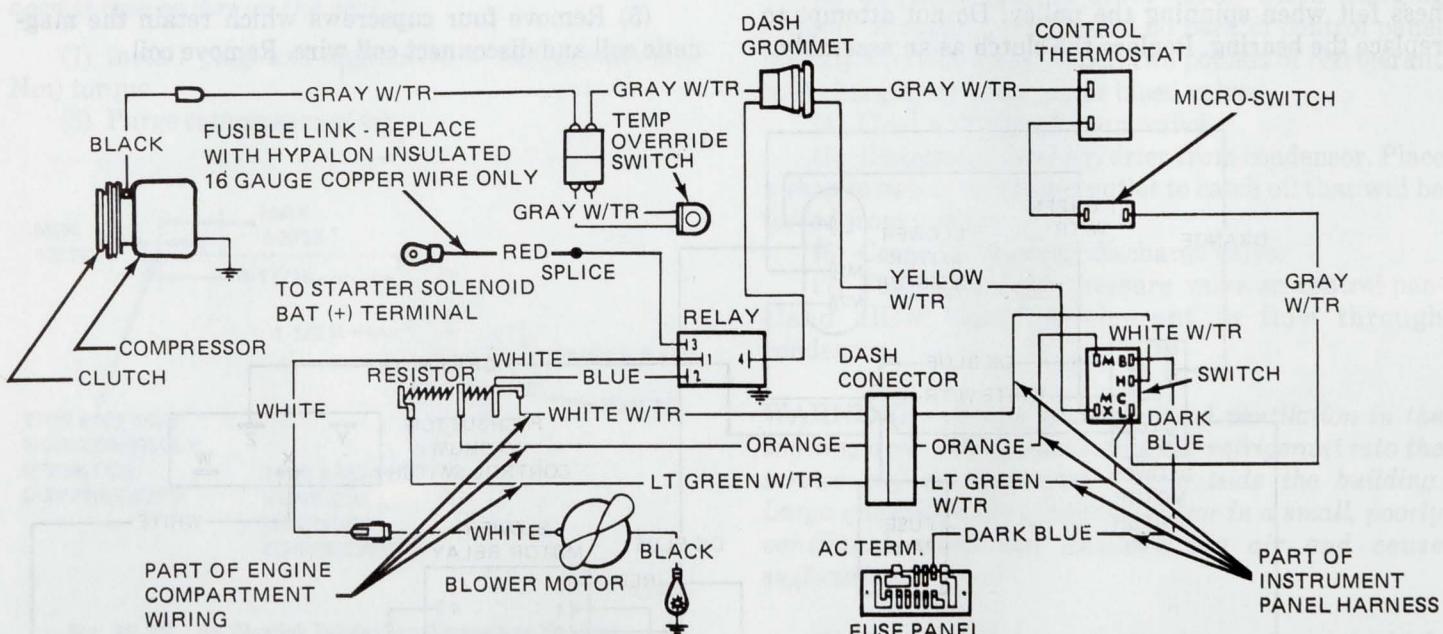
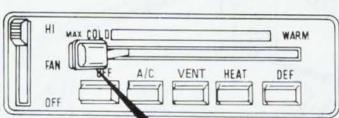


Fig. 3E-18 Matador Air Conditioning Wiring

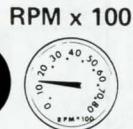
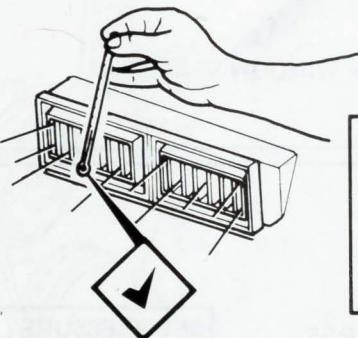
DIAGNOSIS AND REPAIR SIMPLIFICATION CHART

PACER AIR CONDITIONER AND MAGNETIC CLUTCH

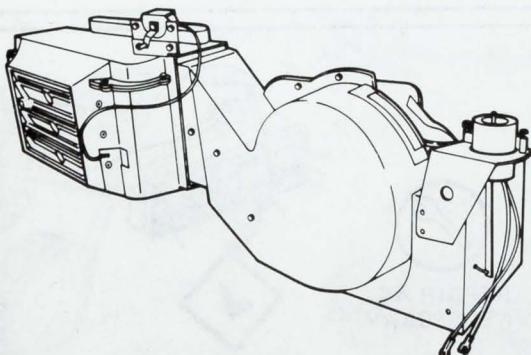
Note: Refer to Chapter A – General Information for details on how to use this DARS chart.

PROBLEM: SYSTEM DOES NOT COOL PROPERLY**Chart 1****STEP****SEQUENCE****RESULT****1**TURN
IGNITION
ONSET THERMOSTAT AT MAX. COLD
BLOWER SWITCH ON HIGH
PRESS A/C PUSHBUTTONLISTEN FOR
“CLICK”
AT CLUTCH**3****2****2**

CHECK • MAGNETIC CLUTCH

REFER TO MAGNETIC CLUTCH
DIAGNOSIS CHARTS**3**SET ENGINE
SPEED AT
1500 RPMCHECK DISCHARGE
TEMPERATURE WITH
THERMOMETER

NOTE:
DISCHARGE AIR TEMPERATURE
MUST CORRESPOND TO
AMBIENT AIR TEMPERATURE
AS SHOWN IN NORMAL
OPERATING TEMPERATURE
AND PRESSURE CHART

SYSTEM COOLS
AND CYCLES
PROPERLYDISCHARGE AIR
COOL BUT SYS-
TEM DOES NOT
ADEQUATELY
COOL INTERIORSYSTEM DOES
NOT COOL
OR CYCLESYSTEM CYCLES
AT INCORRECT
TEMPERATURE**10****4****7****8****CONTROLS****4****5**REPAIR IF
NECESSARYCHECK • ADJUSTMENTS • DAMPER DOORS • CABLES • VACUUM MOTORS
• HOT WATER SHUT OFF VALVE

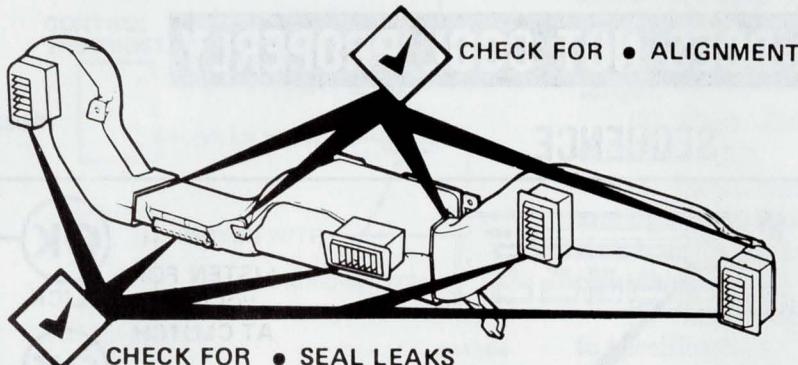
STEP

SEQUENCE

RESULT

AIR DISCHARGE AND CONNECTING DUCTS

5

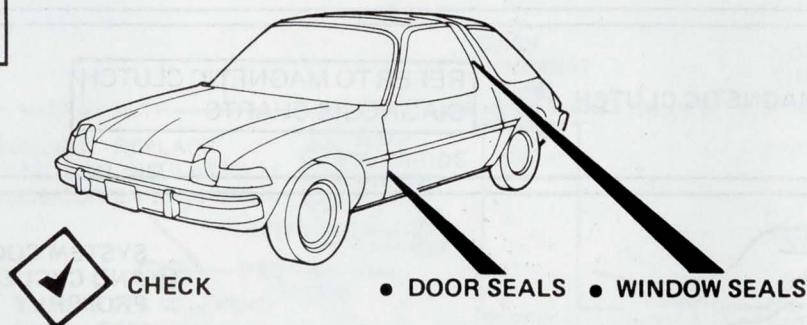


REPAIR IF NECESSARY

6

AIR LEAKS

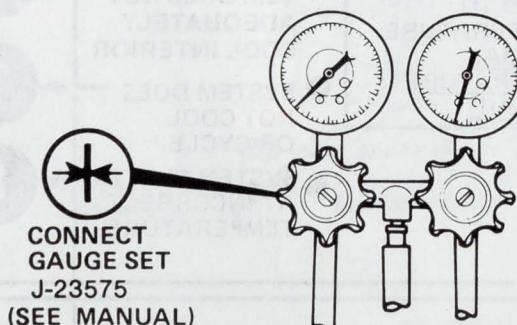
6



REPAIR IF NECESSARY

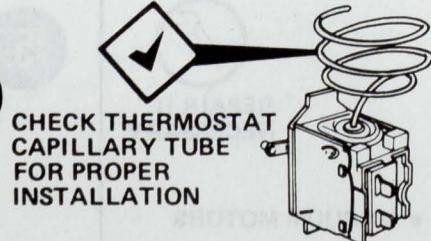
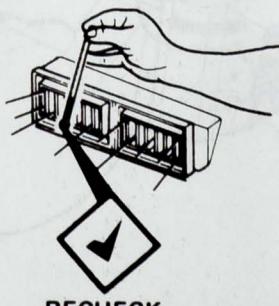
10

7

SEE PRESSURE
DIAGNOSIS CHART
TO CORRECT

10

8

REPAIR AS
NECESSARYSYSTEM COOLS
AND CYCLES
PROPERLY

10

SYSTEM CYCLES
AT INCORRECT
TEMPERATURE

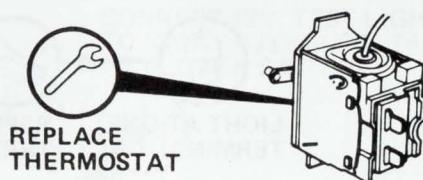
9

STEP

SEQUENCE

RESULT

9



10

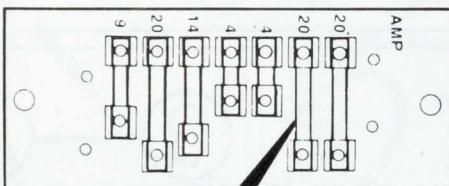
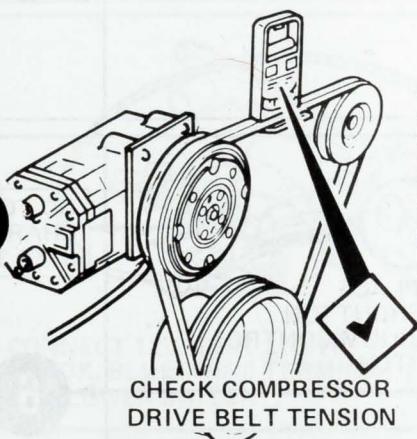
ROAD TEST CAR TO VERIFY
PROPER OPERATION**MAGNETIC CLUTCH DIAGNOSIS PACER****Chart 2**

STEP

SEQUENCE

RESULT

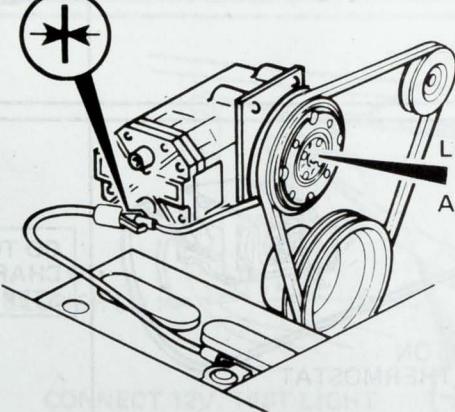
1

CHECK BLOWER
MOTOR FUSELISTEN FOR
"CLICK"
AT CLUTCHGO TO
CHART 1
STEP 3

2

CONNECT JUMPER FROM BATTERY
(+) TERMINAL TO CLUTCH LEAD
TERMINAL

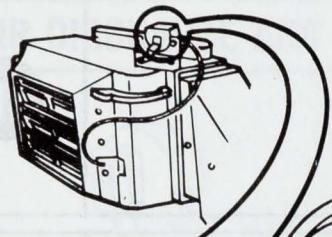
3

GO TO
CHART 1
STEP 3

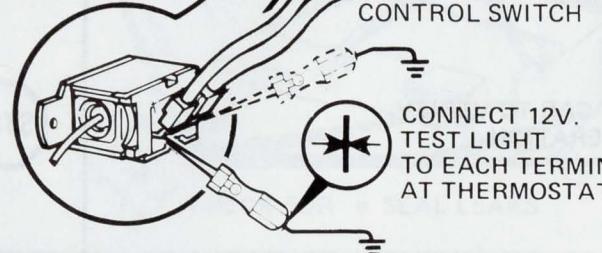
STEP

SEQUENCE

RESULT

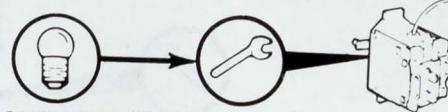


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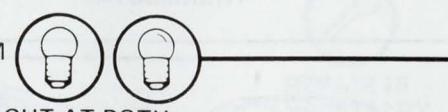


TO CLUTCH
TO PUSHBUTTON VACUUM
CONTROL SWITCH

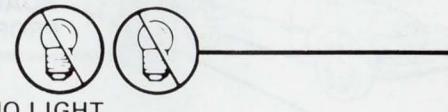
CONNECT 12V.
TEST LIGHT
TO EACH TERMINAL
AT THERMOSTAT



LIGHT AT ONE
TERMINAL ONLY
REPLACE
THERMOSTAT



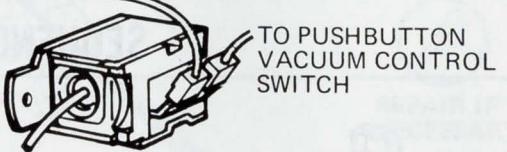
LIGHT AT BOTH
TERMINALS



NO LIGHT
EITHER TERMINAL

GO TO
CHART 1
STEP 3

4

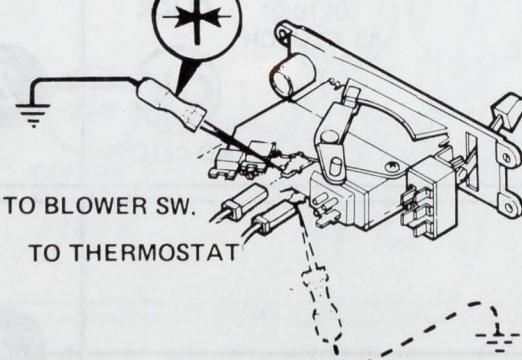


4

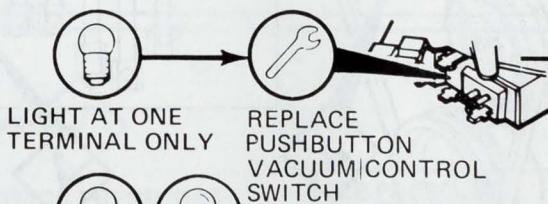
REPLACE LEAD
FROM THERMOSTAT
TO CLUTCH

GO TO
CHART 1
STEP 3

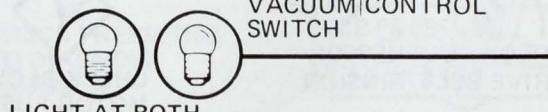
CONNECT 12V. TEST LIGHT TO EACH
TERMINAL AT PUSHBUTTON
VACUUM CONTROL SWITCH



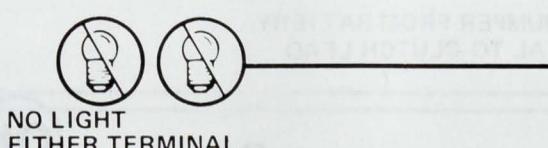
5



LIGHT AT ONE
TERMINAL ONLY
REPLACE
PUSHBUTTON
VACUUM CONTROL
SWITCH



LIGHT AT BOTH
TERMINALS



NO LIGHT
EITHER TERMINAL

6

7



6

REPLACE LEAD FROM PUSHBUTTON
VACUUM CONTROL SWITCH TO THERMOSTAT

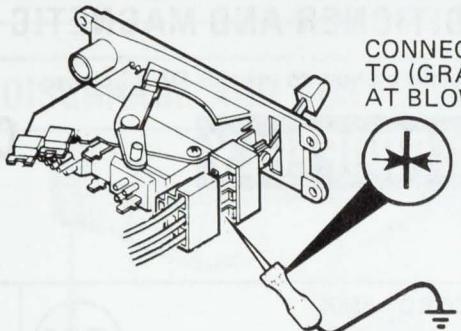
GO TO
CHART 1
STEP 3

STEP

SEQUENCE

RESULT

7



CONNECT 12V. TEST LIGHT TO (GRAY W/TRACER) TERMINAL AT BLOWER SWITCH



8

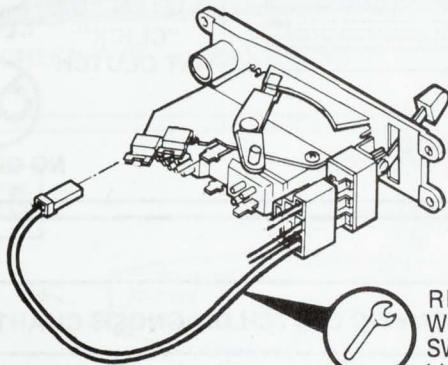
TEST LIGHT ON



9

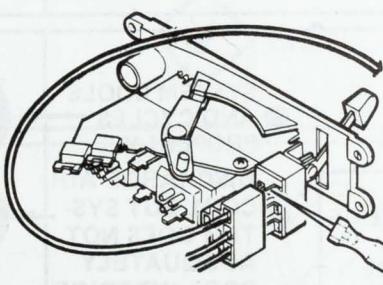
TEST LIGHT OFF

8

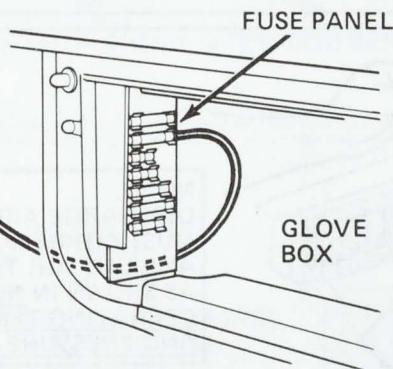


GO TO
CHART 1
STEP 3

9

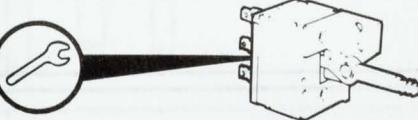


CONNECT 12V. TEST LIGHT TO (DK. BLUE) WIRE TERMINAL AT BLOWER SWITCH



10

REPLACE
BLOWER
SWITCH

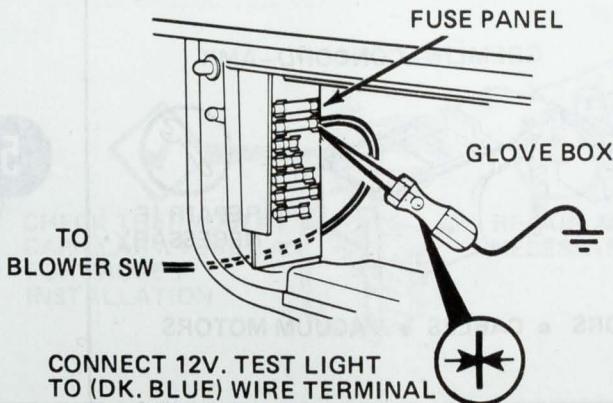


10



11

11



CONNECT 12V. TEST LIGHT TO (DK. BLUE) WIRE TERMINAL



TEST LIGHT
ON

REPLACE (DK. BLUE)
WIRE BETWEEN
FUSE PANEL AND
BLOWER SWITCH

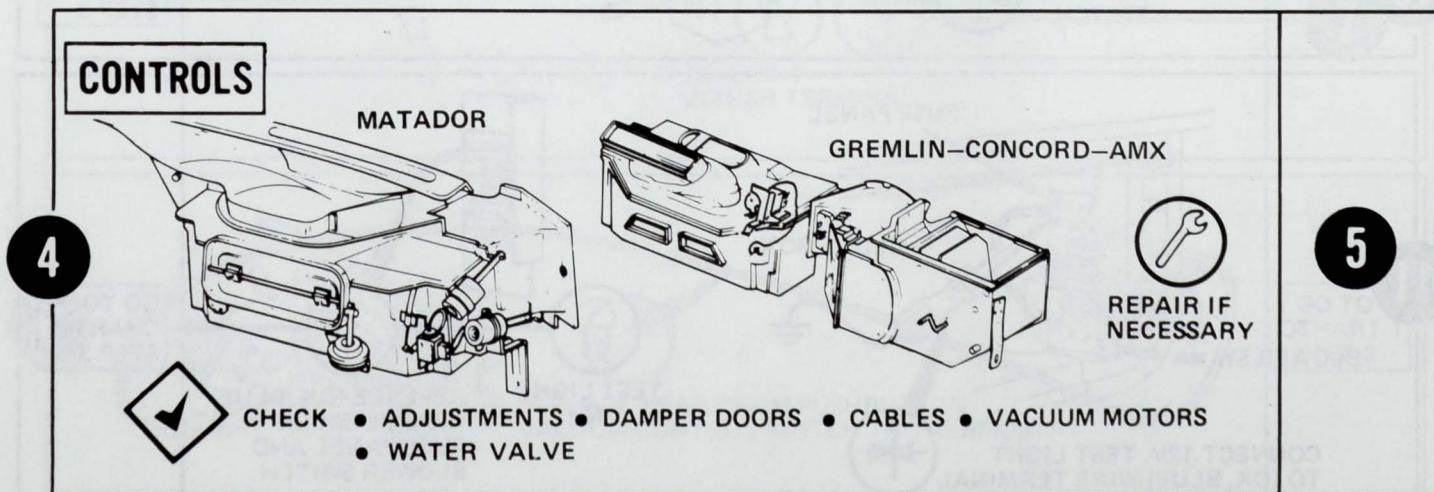
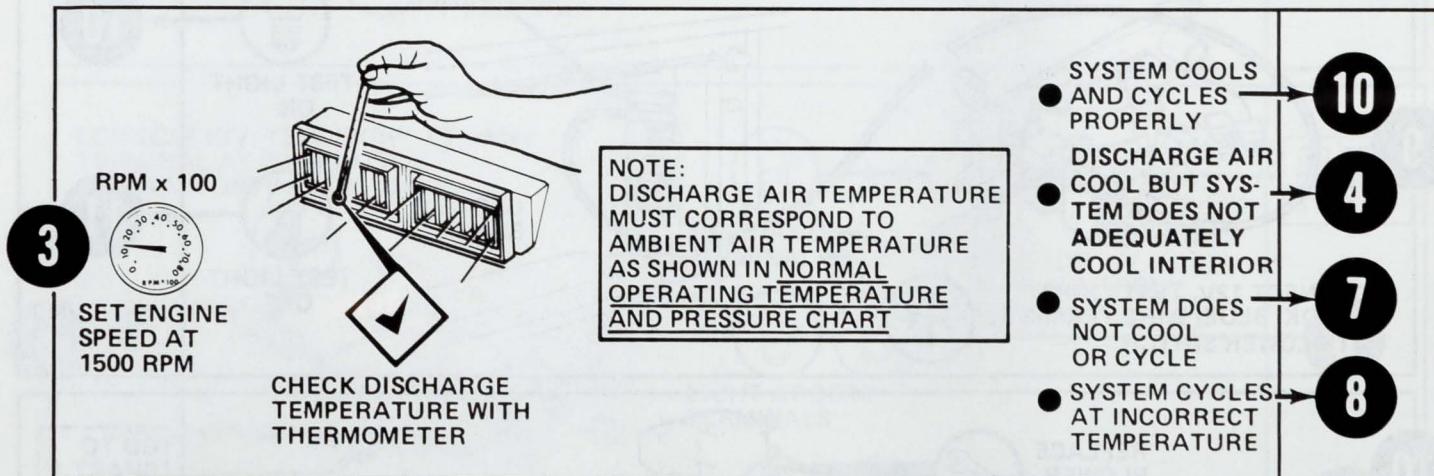
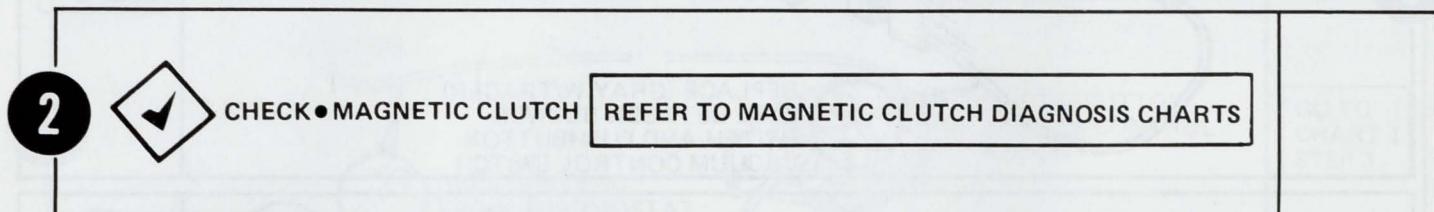
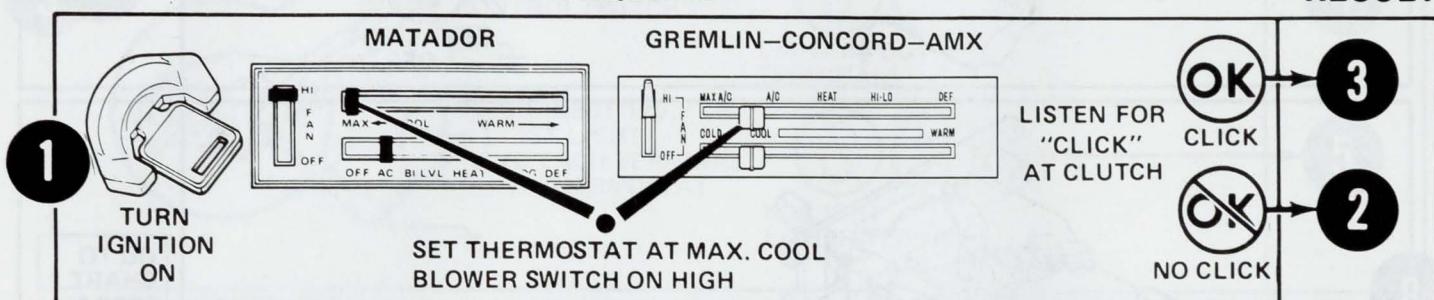
GO TO
CHART 1
STEP 3

GO TO
CHART 1
STEP 3

DIAGNOSIS AND REPAIR SIMPLIFICATION CHART

GREMLIN—CONCORD—AMX—MATADOR AIR CONDITIONER AND MAGNETIC CLUTCH

Note: Refer to Chapter A — General Information for details on how to use this DARS chart.

PROBLEM: SYSTEM DOES NOT COOL PROPERLY**Chart 1****STEP****SEQUENCE****RESULT**

STEP

SEQUENCE

RESULT

AIR DISCHARGE AND CONNECTING DUCTS

5



CHECK FOR • ALIGNMENT

CHECK FOR • SEAL LEAKS



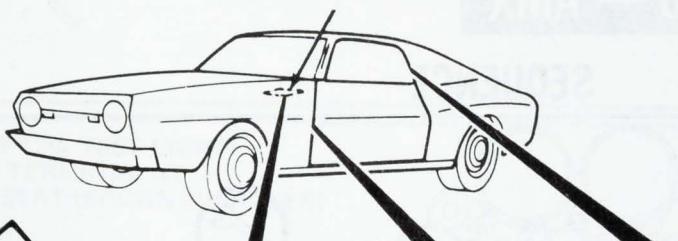
REPAIR IF NECESSARY

6

AIR LEAKS

6

GREMLIN—CONCORD—AMX



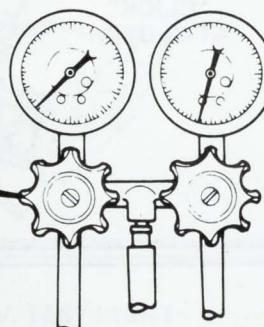
REPAIR IF NECESSARY

10

CHECK • VENT • DOOR SEALS • WINDOW SEALS

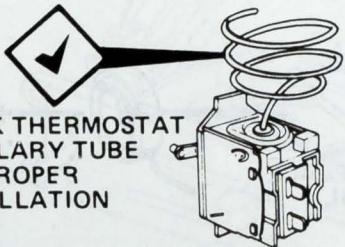
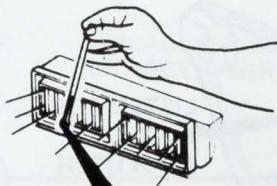
7

CONNECT
GAUGE SET
J-23575
(SEE MANUAL)

CHECK PRESSURES
TO DIAGNOSE
PROBLEMSEE PRESSURE
DIAGNOSIS CHART
TO CORRECT

10

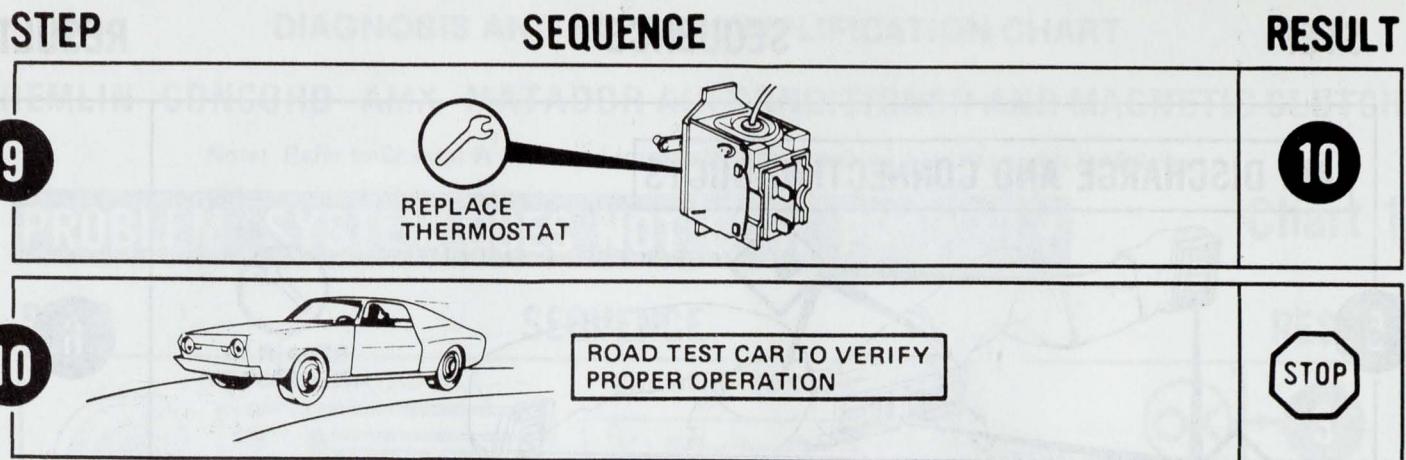
8

CHECK THERMOSTAT
CAPILLARY TUBE
FOR PROPER
INSTALLATIONREPAIR AS
NECESSARYRECHECK
DISCHARGE AIR
TEMPERATURESYSTEM COOLS
AND CYCLES
PROPERLY

10

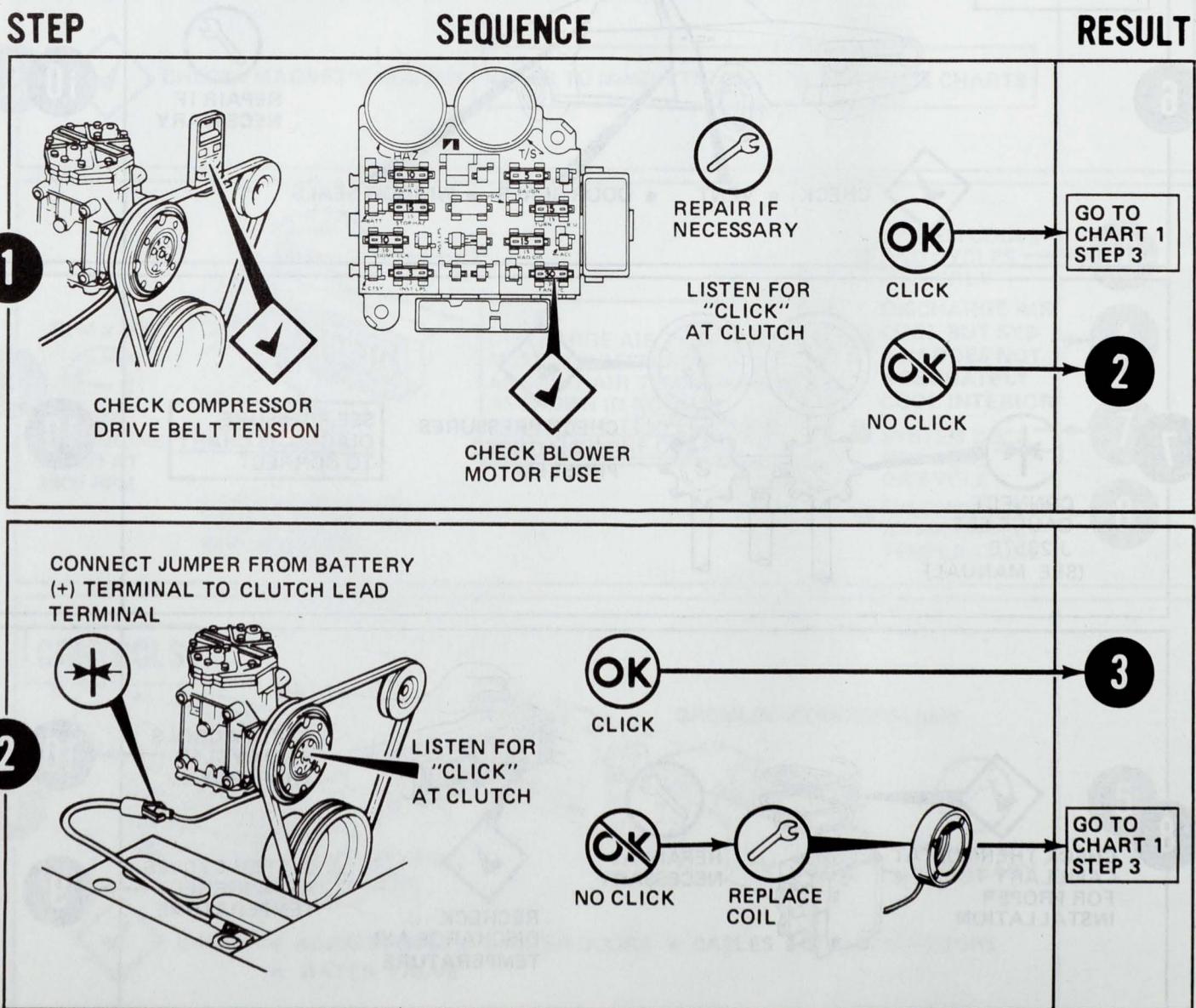
SYSTEM CYCLES
AT INCORRECT
TEMPERATURE

9



MAGNETIC CLUTCH DIAGNOSIS GREMLIN — CONCORD — AMX

Chart 2



STEP

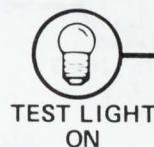
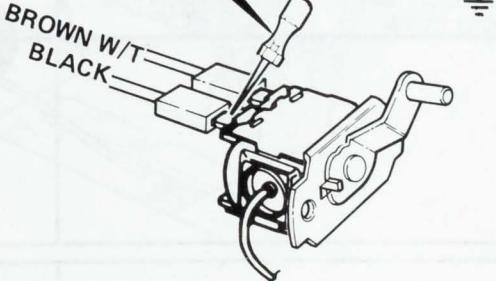
SEQUENCE

RESULT

CONNECT 12V. TEST LIGHT TO (BROWN) WIRE TERMINAL AT THERMOSTAT



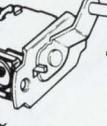
BROWN W/T
BLACK



TEST LIGHT
ON



REPLACE
BROWN WIRE



GO TO
CHART 1
STEP 3

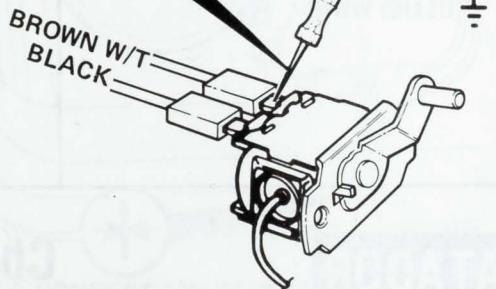
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4

CONNECT 12V. TEST LIGHT
TO FEED TERMINAL AT
THERMOSTAT (BROWN W/TRACER)



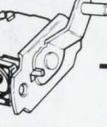
BROWN W/T
BLACK



TEST LIGHT
ON



REPLACE
THERMOSTAT

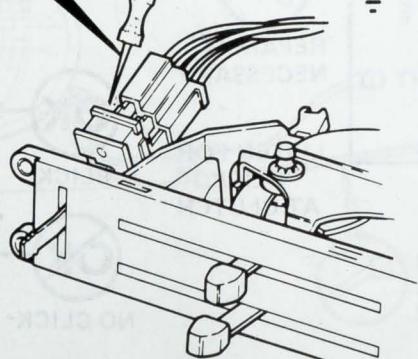


GO TO
CHART 1
STEP 3

4

5

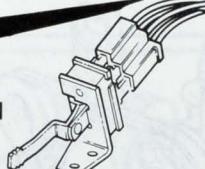
CONNECT 12V. TEST LIGHT
TO (BROWN W/TRACER)
TERMINAL AT BLOWER SWITCH



TEST LIGHT
ON



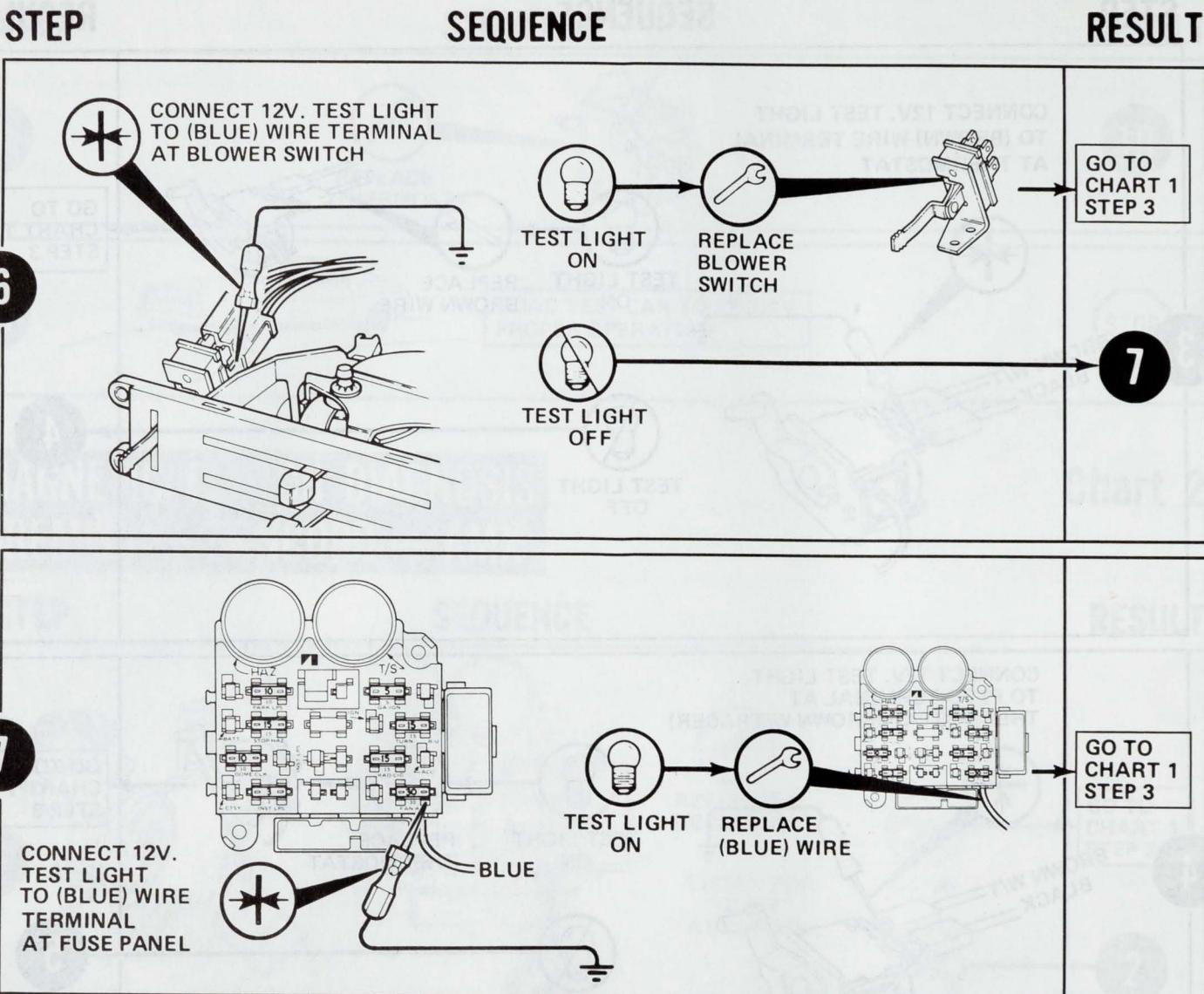
REPLACE (BROWN
W/TRACER) WIRE



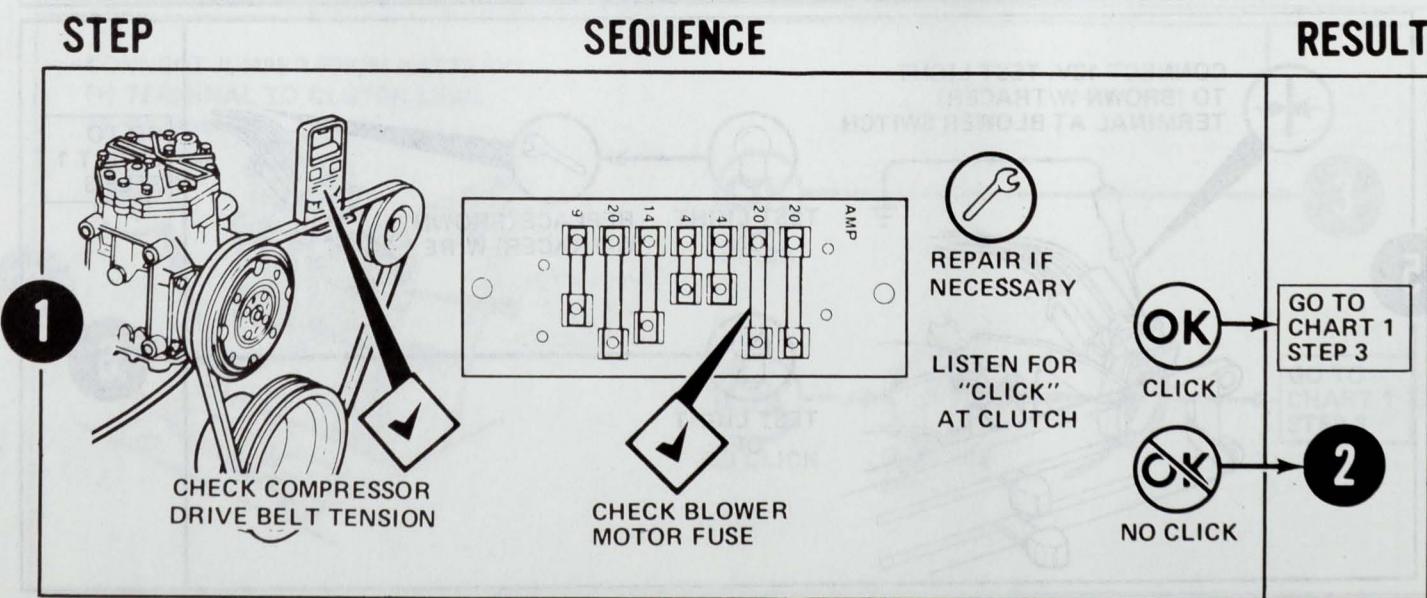
GO TO
CHART 1
STEP 3

5

6

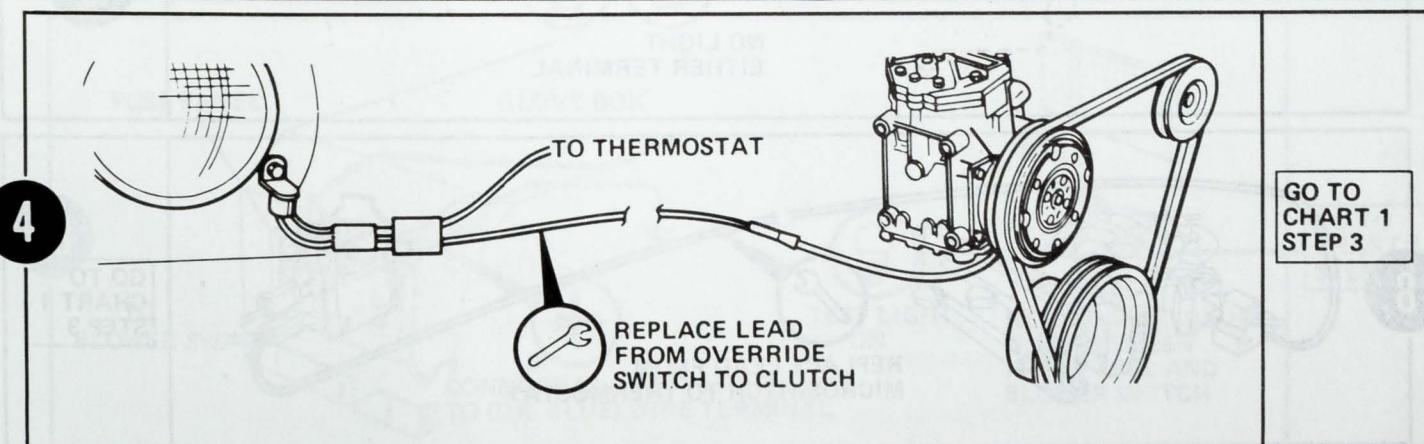
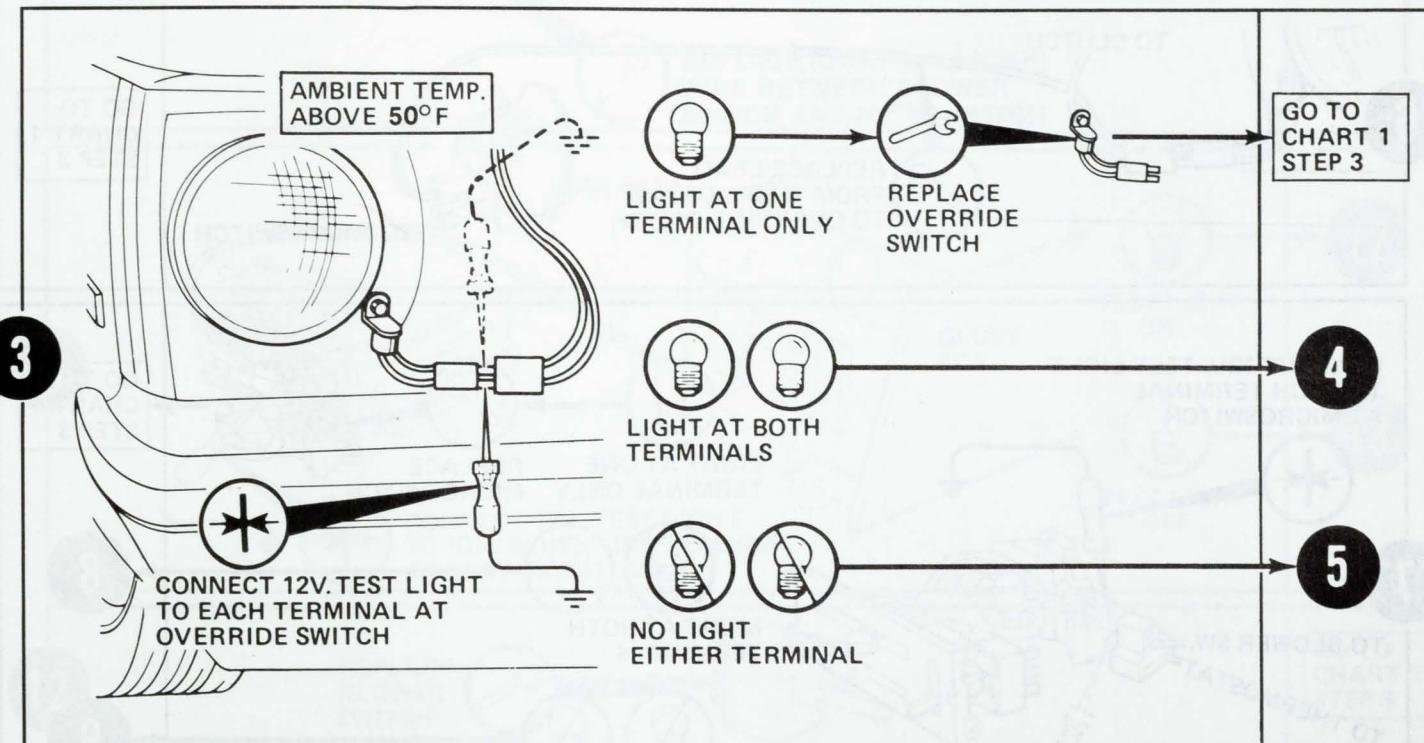
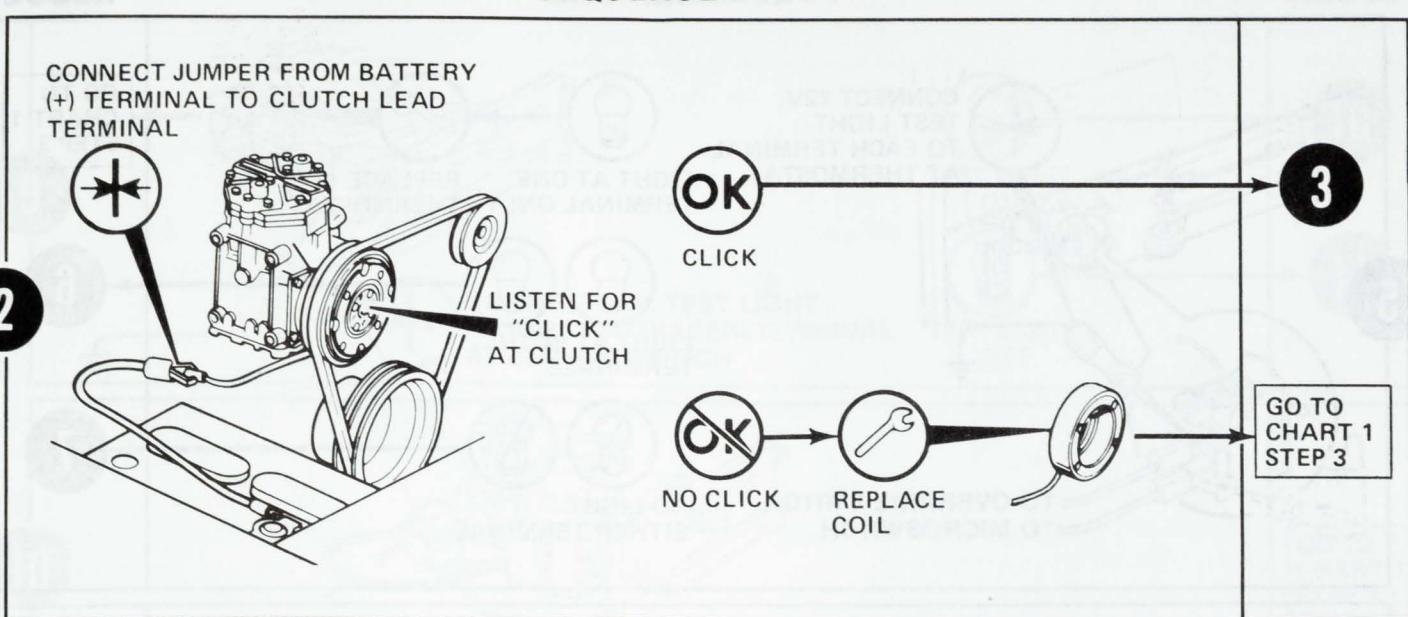


70145E

MAGNETIC CLUTCH DIAGNOSIS MATADOR**Chart 3**

70434A

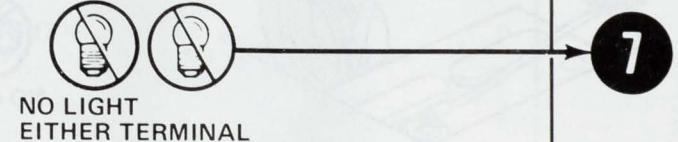
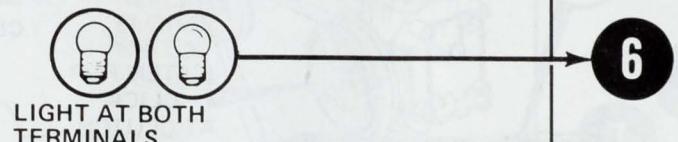
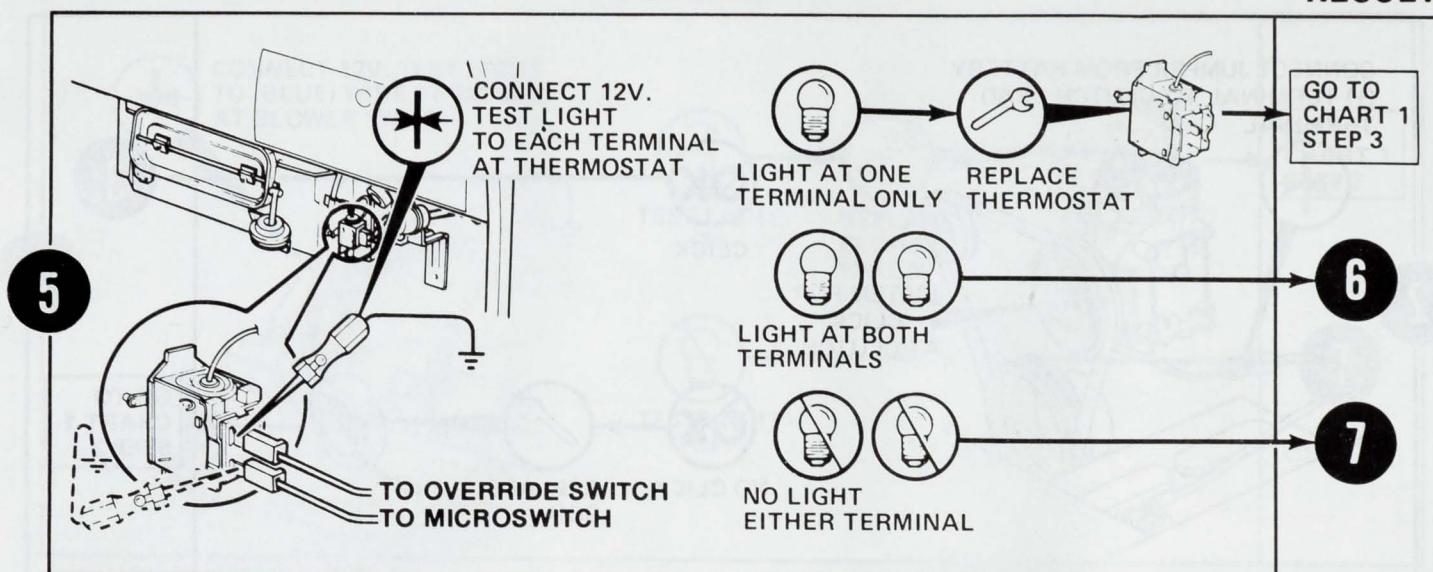
STEP	SEQUENCE	RESULT
------	----------	--------



STEP

SEQUENCE

RESULT



GO TO
CHART 1
STEP 3

6

7

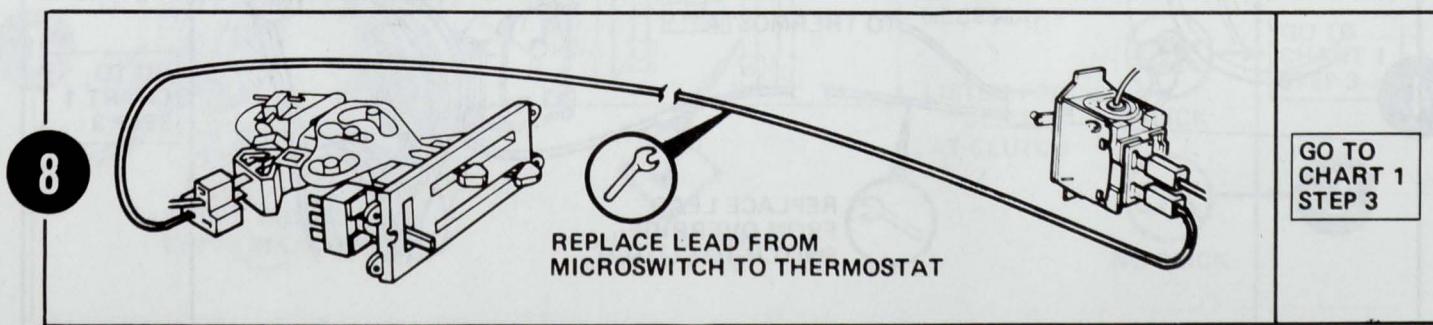
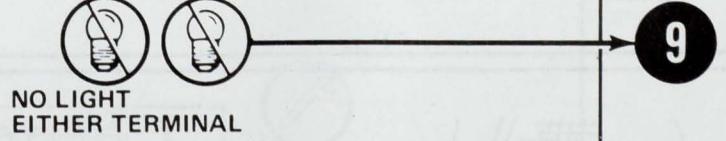
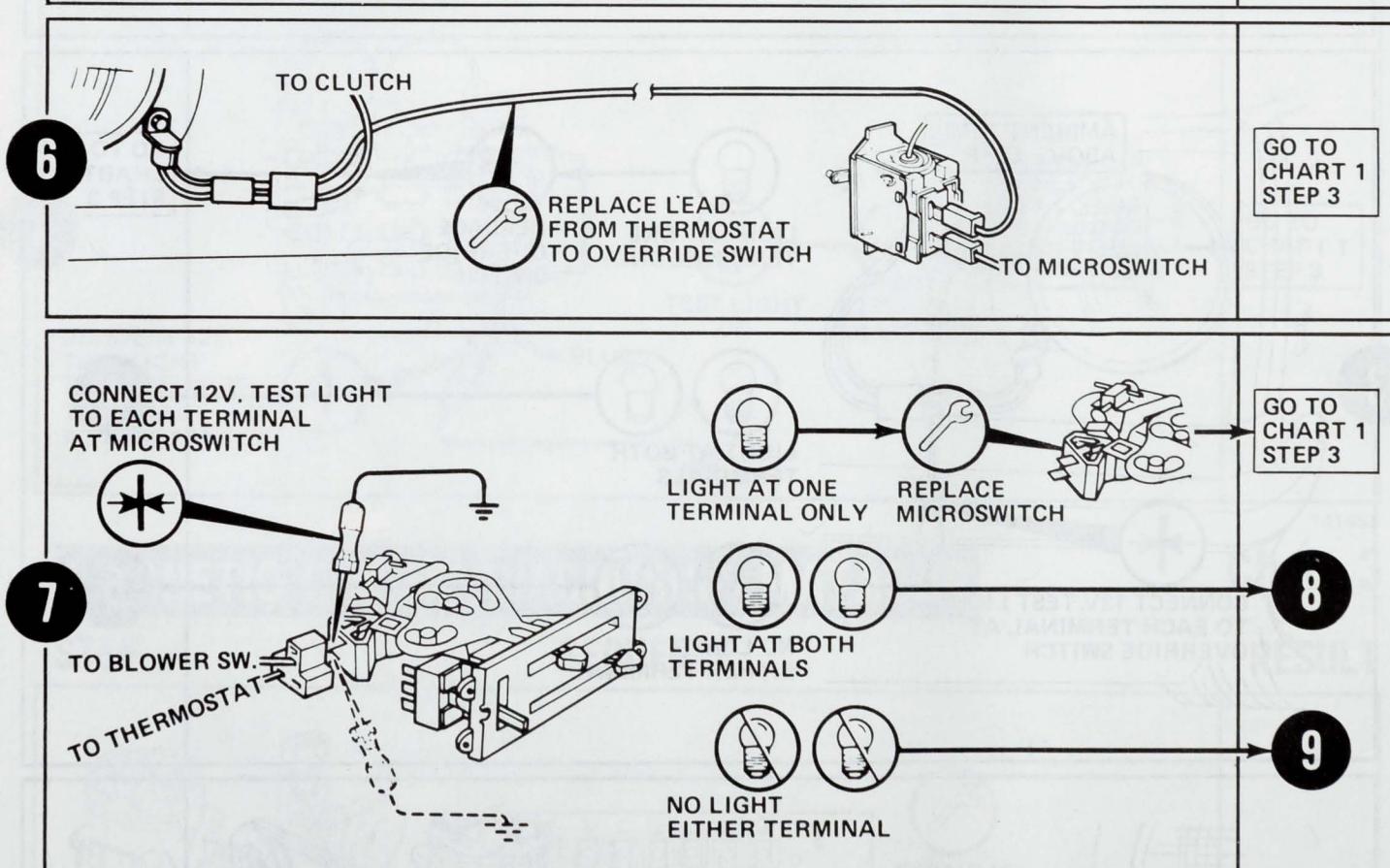
GO TO
CHART 1
STEP 3

GO TO
CHART 1
STEP 3

8

9

GO TO
CHART 1
STEP 3

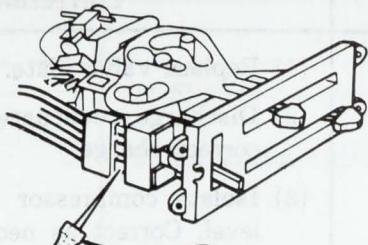


STEP

SEQUENCE

RESULT

9



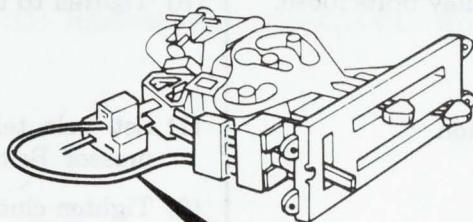
CONNECT 12V. TEST LIGHT
TO (GRAY W/TRACER) TERMINAL
AT BLOWER SWITCH

TEST LIGHT
ONTEST LIGHT
OFF

10

11

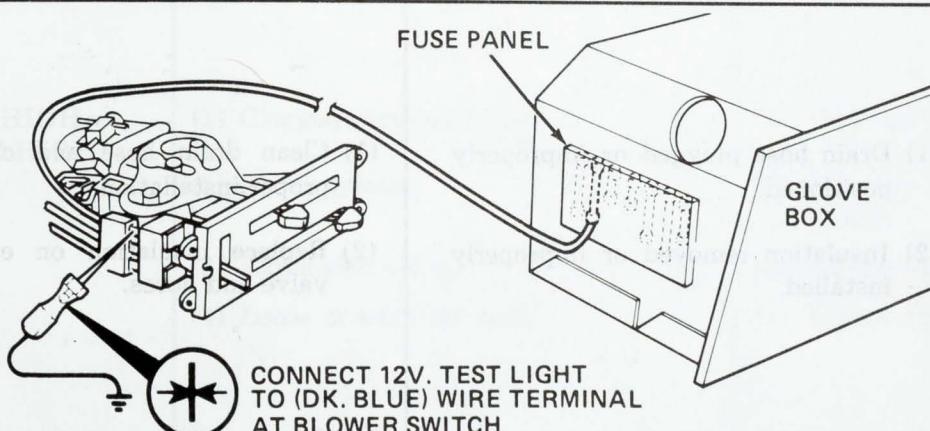
10



REPLACE (GRAY W/TRACER)
WIRE BETWEEN BLOWER
SWITCH AND MICROSWITCH

GO TO
CHART 1
STEP 3

11



CONNECT 12V. TEST LIGHT
TO (DK. BLUE) WIRE TERMINAL
AT BLOWER SWITCH

TEST LIGHT
ONTEST LIGHT
OFF

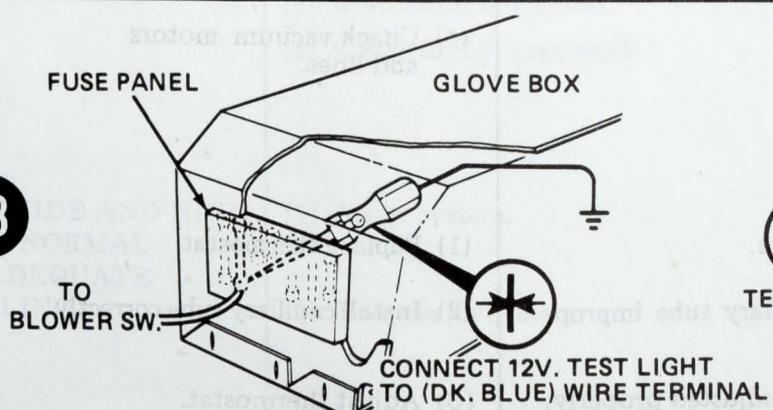
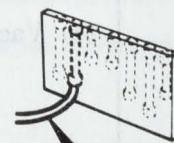
12

13

12

GO TO
CHART 1
STEP 3

13

TEST LIGHT
ON

REPLACE (DK. BLUE)
WIRE BETWEEN
FUSE PANEL AND
BLOWER SWITCH

GO TO
CHART 1
STEP 3

Performance Diagnosis—All Models

Condition	Possible Cause	Correction
COMPRESSOR NOISE	<ul style="list-style-type: none"> (1) Broken valves. (2) Overcharged. (3) Incorrect oil level. (4) Piston slap. (5) Broken rings. (6) Accessory drive pulley bolts loose. 	<ul style="list-style-type: none"> (1) Replace valve plate. (2) Discharge, evacuate, and install correct charge. (3) Isolate compressor and check oil level. Correct as necessary. (4) Replace compressor. (5) Replace compressor. (6) Tighten to torque specifications.
EXCESSIVE VIBRATION	<ul style="list-style-type: none"> (1) Incorrect belt tension. (2) Clutch loose. (3) Overcharged. (4) Pulley misaligned. 	<ul style="list-style-type: none"> (1) Set belt tension. Refer to Compressor Belt Tension. (2) Tighten clutch. (3) Discharge, evacuate, and install correct charge. (4) Align pulley.
CONDENSATION DRIPPING IN PASSENGER COMPARTMENT	<ul style="list-style-type: none"> (1) Drain hose plugged or improperly positioned. (2) Insulation removed or improperly installed. 	<ul style="list-style-type: none"> (1) Clean drain hose and check for proper installation. (2) Replace insulation on expansion valve and hoses.
AC AIRFLOW STOPS ON ACCELERATION	<ul style="list-style-type: none"> (1) Defective vacuum storage tank. (2) Vacuum line separated or defective. (3) Vacuum switch defective. (4) Vacuum leak. 	<ul style="list-style-type: none"> (1) Check tank. Replace if necessary. (2) Check vacuum lines. Replace as required. (3) Replace switch. (4) Check vacuum motors and lines.
FROZEN EVAPORATOR COIL	<ul style="list-style-type: none"> (1) Faulty thermostat. (2) Thermostat capillary tube improperly installed. (3) Thermostat not adjusted properly. 	<ul style="list-style-type: none"> (1) Replace thermostat. (2) Install capillary tube correctly. (3) Adjust thermostat.

Pressure Diagnosis—All Models

Condition	Possible Cause	Correction
LOW SIDE LOW— HIGH SIDE LOW	(1) System refrigerant low. (2) Expansion valve clogged.	(1) Evacuate, leak test, and charge. (2) Replace expansion valve.
LOW SIDE HIGH— HIGH SIDE LOW	(1) Internal leak in compressor—worn. (2) Head gasket leaking. (3) Expansion valve. (4) Drive belt slipping.	(1) Remove compressor cylinder head and inspect compressor. Replace valve plate assembly if necessary. If compressor pistons, rings, or cylinders are excessively worn or scored replace compressor. (2) Install new cylinder head gasket. (3) Replace expansion valve. (4) Set belt tension.
LOW SIDE HIGH— HIGH SIDE HIGH	(1) Clogged condenser fins. (2) Air in system. (3) Expansion valve. (4) Loose or worn fan belts.	(1) Clean out condenser fins. (2) Evacuate, leak test, and charge system. (3) Replace expansion valve. (4) Adjust or replace belts as necessary.
LOW SIDE LOW— HIGH SIDE HIGH	(1) Expansion valve. (2) Restriction in liquid line. (3) Restriction in receiver. (4) Restriction in condenser.	(1) Replace expansion valve. (2) Check line for kinks—replace if necessary. (3) Replace receiver. (4) Replace condenser.
LOW SIDE AND HIGH SIDE NORMAL (INADEQUATE COOLING)	(1) Air in system. (2) Moisture in system.	(1) Evacuate, leak test, and charge system. (2) Evacuate, leak test, and charge system.

SPECIFICATIONS

Torque Specifications

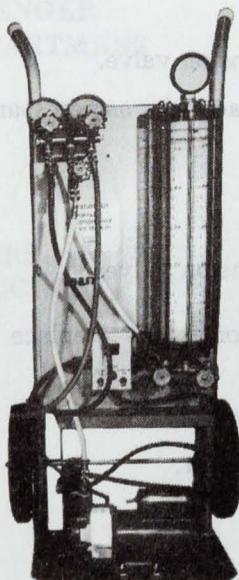
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	Metric (N·m)	USA (ft.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
A/C Condenser Mtg. Screw (Matador)	3.4	2.3-4.5	30 in.lbs.	20-40 in.lbs.
A/C Evaporator-to-Receiver Tank Hose Coupling	13.6	10.9-16.3	10	8-12
A/C Service Valve (Rotolock)	38	28.5-44.8	28	21-33
A/C Service Valve (flange type)	Wet Torque	Wet Torque	Wet Torque	Wet Torque
A/C Clutch Coil	20.3	17.6-23.1	15	13-17
A/C Clutch Pulley	9.5	6.8-13.6	7	5-10
Compressor Seal Plate	27.1	24.4-29.8	20	18-22
Compressor Back Plate	8.1	5.4-10.9	6	4-8
Compressor Head	17.6	14.9-20.3	13	11-15
Compressor Bottom Plate	20.3	17.6-23.1	15	13-17
Compressor Oil Filler Plug	20.3	17.6-23.1	15	13-17
	5.4	4.1-6.8	4	3-5

All Torque values given in foot-pounds and newton-meters with dry fits unless otherwise specified.

80717

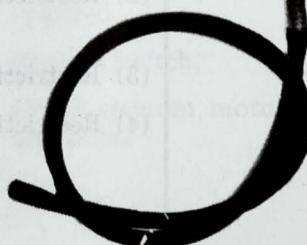
Special Tools



J-23500-01
PORTABLE SERVICE STATION



J-6084
HALIDE TORCH LEAK DETECTOR

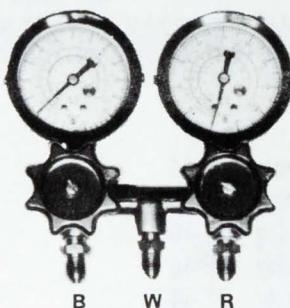


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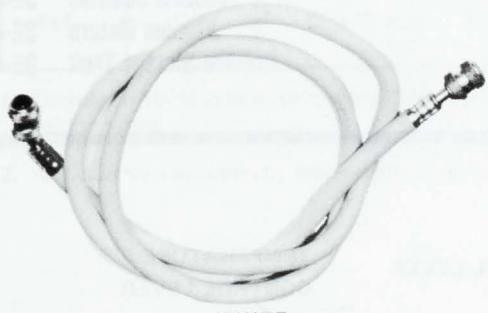
Special Tools



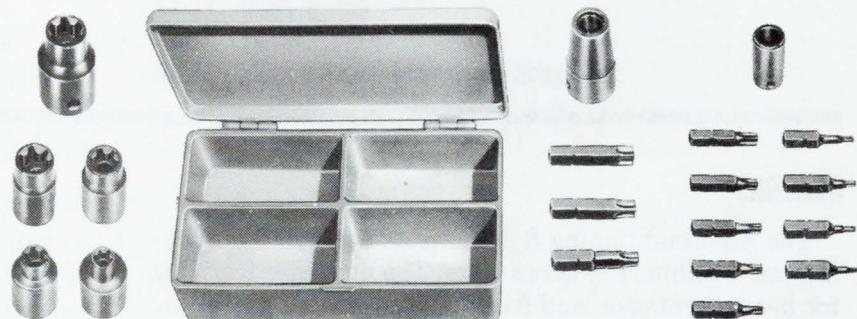
BLUE



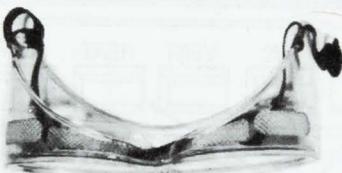
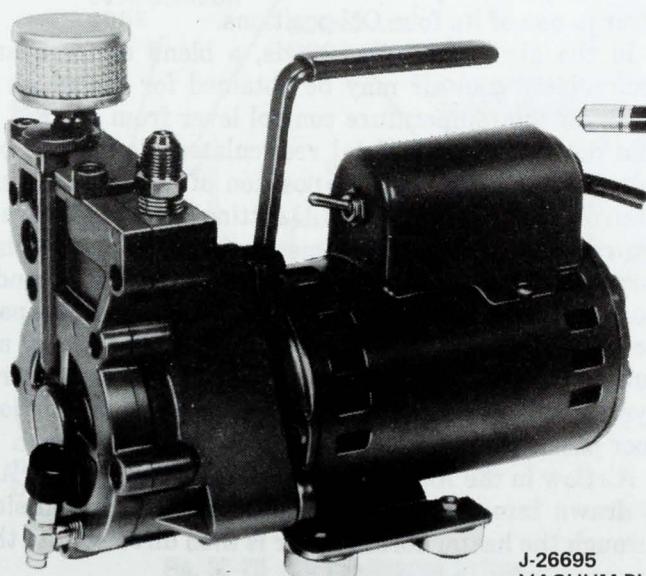
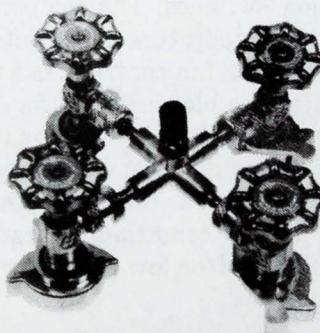
RED



WHITE

J-23575 PRESSURE GAUGE
AND MANIFOLD ASSEMBLY

J-25359-02 TORX BIT AND SOCKET SET

J-5453
GOOGLESJ-26933
ELECTRONIC LEAK DETECTORJ-6105
1/4-INCH RATCHETJ-26695
VACUUM PUMPJ-6272-02
NO. 4 MULTI-REFRIGERANT
CAN OPENER

PACER AIR CONDITIONING

Page		Page	
Air Discharge Ducts	3E-44	Expansion Valve Replacement	3E-46
Blend-Air Door Cable Adjustment	3E-41	General	3E-36
Blower Motor and Blower Housing	3E-49	Heater Core Replacement	3E-51
Blower Motor Relay	3E-44	Heater Water Valve	3E-44
Blower Motor Resistor	3E-44	Temperature Control Thermostat	3E-38
Condenser	3E-46	Temperature Control Thermostat Adjustment	3E-41
Control Operation and Airflow	3E-36	Vacuum Controls	3E-41
Control Panel	3E-38	Vacuum Motors	3E-41
Defroster Duct	3E-44	Vacuum Storage Tank	3E-44
Evaporator Housing and Core Assembly	3E-47		

GENERAL

The Air Conditioning System is a heater and air conditioner combined in three units. The units use fresh air for heater operation and fresh or recirculated air for air conditioner operation.

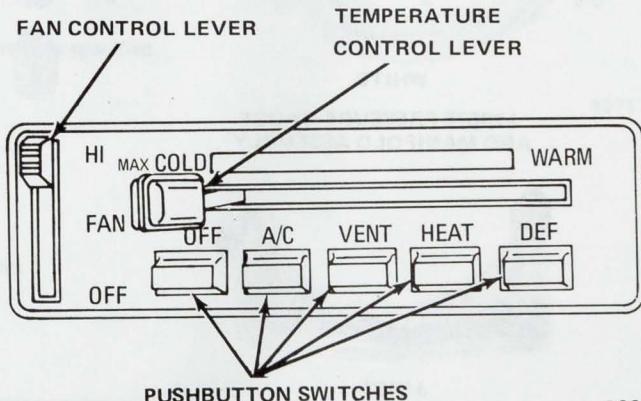
The cooling unit is mounted on the dash panel and the cooled air is discharged from the instrument panel registers. The registers are adjustable to provide general or localized cooling. To cool the car interior efficiently, the windows should be closed while operating the air conditioning. However, if the car has been parked for a period of time in the sun, open the windows to expel the heated air prior to operating the air conditioning. The engine should be run well above idle speed for more efficient cooling under conditions where the system is operated with the car parked or standing.

CONTROL OPERATION AND AIRFLOW

Control Panel

The control panel (fig. 3E-19), located in the upper center of the instrument panel, contains a fan control switch, a temperature control lever and five pushbutton-type function switches. The temperature control lever regulates the temperature of air entering the passenger compartment. The fan control has a five-position switch that regulates the blower speed for heating, defrosting, ventilating, and cooling. It must be in one of its four ON positions when the system is operated in the cooling mode. The pushbuttons provide actuation of the heating, defrosting, and air conditioning systems and permit selection of high and/or low airflow within the passenger compartment.

The following chart identifies airflow door positions in the various pushbutton modes.



80027

Fig. 3E-19 Control Panel

Air Conditioner Operation

Press the A/C pushbutton and move the fan control lever to one of its four ON positions.

In the air conditioning mode, a blend of fresh and recirculated cool air may be obtained for the range of travel of the temperature control lever from WARM to cold detent position. Total recirculated air may be obtained at the MAX COLD position of the temperature control lever. The MAX COLD setting also reduces evaporator temperature approximately 6° below the freezing temperature and is intended for use in extreme conditions until the car interior is cooled. Extended use, particularly in humid conditions, will cause blockage of air due to icing of evaporator core. Refer to the Control System Mode Selection Chart for vacuum motor/airflow door position and electrical component operation.

Airflow in the A/C mode is shown in figure 3E-20. Air is drawn into the recirculation door and from outside through the heater core. The air is then directed into the

Control System Mode Selection

Mode	A/C Clutch	Floor Door	Panel Door	Defrost Door	Recirc Door	Outside Air Door	Water Valve	Blower Fan
Off	Off	Closed	Closed	Closed	Closed	Closed	Closed	Operators Choice 4 Speeds With Off
A/C	On	Closed	Open	Closed	Open	Closed	Closed	
Vent	Off	Open	Closed	Closed	Closed	Open	Open	
Heat	Off	Closed	Open	Closed	Closed	Open	Closed	
Def	Off	Closed	Closed	Open	Closed	Open	Open	

1. Outside air 100% in heat, vent and defrost modes and 0 to 30% in A/C mode dependent on temperature control lever position from maximum cold to warm.

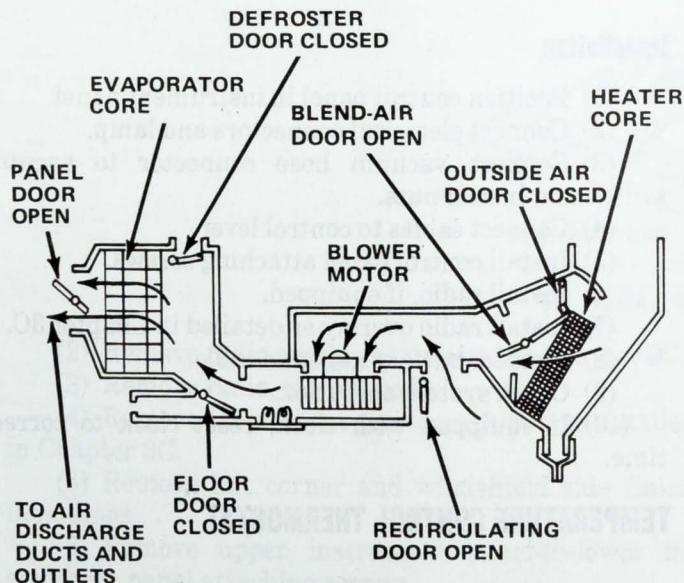
2. A/C clutch on selection by mode pushbutton dependent on fan switch being energized.

Floor Door — Vacuum to Open
 Panel Door — Vacuum to Open
 Defrost Door — Vacuum to Close
 Outside Air Door — Vacuum to Close
 Water Valve — Vacuum to Close
 Recirc. Door — Vacuum to Open

3. In A/C mode, the A/C thermostat is adjusted by the temperature control lever. The cold detent position of temperature control lever adjusts A/C thermostat to provide coldest temperature without danger of icing evaporator core.

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blower housing. The blower forces the air into the evaporator housing where it is directed through the evaporator core and cooled. The cooled air is directed to the panel door and then into the car through individually adjusted panel registers.

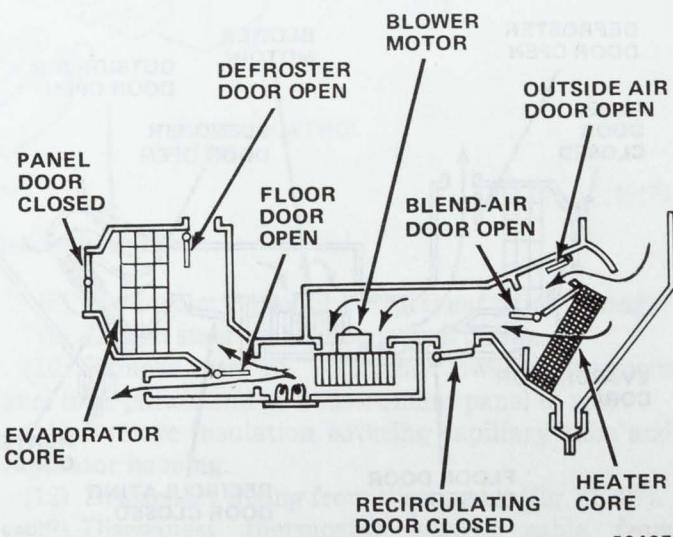


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Fig. 3E-20 Air Conditioning Airflow

Heater Operation

Move the temperature control lever to the right (red area) and press the HEAT pushbutton. Refer to the Control System Mode Selection Chart for vacuum motor/airflow door position and electrical component operation. Pressing the HEAT pushbutton will direct heated air to the floor and windshield (fig. 3E-21).



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Fig. 3E-21 Heater Airflow

Fresh Air Ventilation

Fresh air ventilation is accomplished by moving the temperature control lever to the extreme left MAX position, press the VENT pushbutton to direct air to the instrument panel registers and move the fan control lever to one of its four ON positions to provide the desired flow of fresh air (fig. 3E-22).

Refer to the Control System Mode Selection Chart for vacuum motor/airflow door position and electrical component operation.

Defroster Operation

For windshield defrosting, move temperature control lever to the right (red area) and press the DEF pushbutton to direct air through defroster door and onto the windshield (fig. 3E-23).

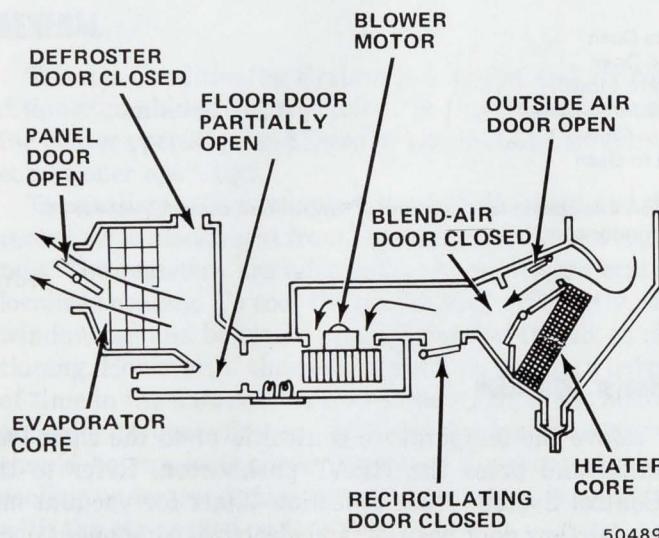


Fig. 3E-22 Fresh Air Airflow

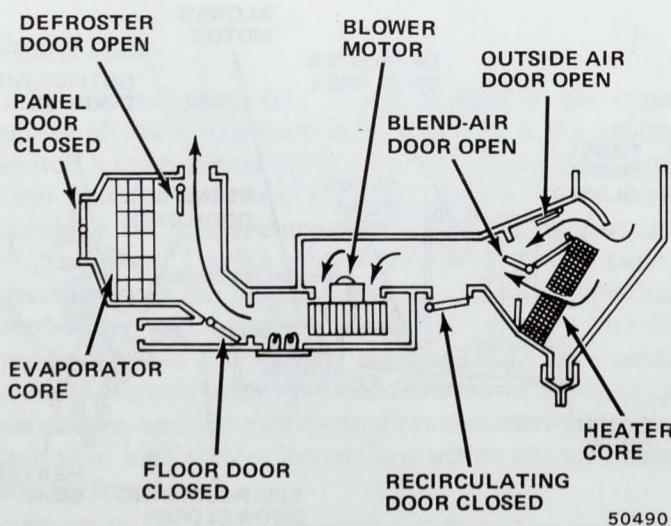


Fig. 3E-23 Defroster Airflow

Refer to the Control System Mode Selection Chart for vacuum motor/airflow door position and electrical component operation.

CONTROL PANEL

Removal

- (1) Disconnect battery negative cable.
- (2) Remove radio overlay as detailed in Chapter 3C.
- (3) Remove radio, if equipped.
- (4) Remove control panel (fig. 3E-24) attaching screws.
- (5) Disconnect cables from control lever.
- (6) Disconnect electrical connectors and lamp.
- (7) Remove nuts attaching hose connector to switch.
- (8) Disconnect vacuum hose connector from vacuum switch.
- (9) Remove control panel.

Disassembly

- (1) Remove blower control switch knob.
- (2) Remove blower control switch (fig. 3E-24).
- (3) Remove screws attaching pushbutton vacuum control switch and remove switch assembly.
- (4) Remove pushbuttons and felt from switch.

Assembly

- (1) Install pushbuttons and felt on vacuum control switch (fig. 3E-25).
- (2) Install pushbutton vacuum control switch on control assembly (fig. 3E-26) and install attaching screws.
- (3) Install blower control switch and knob.

Installation

- (1) Position control panel in instrument panel.
- (2) Connect electrical connectors and lamp.
- (3) Connect vacuum hose connector to vacuum switch and install nuts.
- (4) Connect cables to control lever.
- (5) Install control panel attaching screws.
- (6) Install radio, if equipped.
- (7) Install radio overlay as detailed in Chapter 3C.
- (8) Connect battery negative cable.
- (9) Check system operation.
- (10) If equipped with clock, reset clock to correct time.

TEMPERATURE CONTROL THERMOSTAT

Removal

- (1) Disconnect battery negative cable.

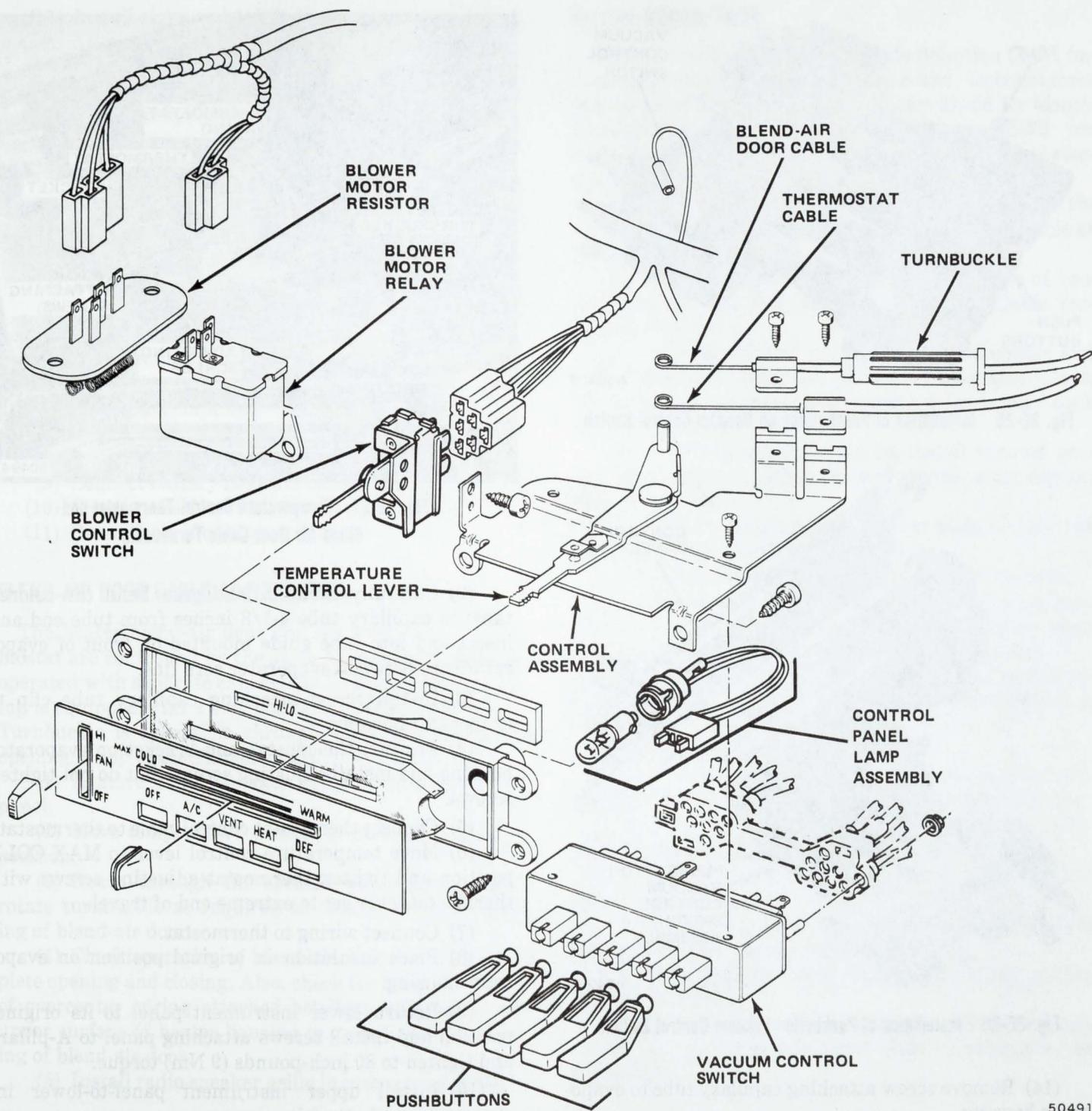


Fig. 3E-24 Control Panel Components

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- (2) Remove radio overlay as detailed in Chapter 3C.
- (3) Remove radio, if equipped.
- (4) Remove instrument panel crash pad as detailed in Chapter 3C.
- (5) Remove left corner and windshield side finish mouldings.
- (6) Remove upper instrument panel-to-lower instrument panel attaching screws.
- (7) Remove right and left scuff plates and cowl trim panels.
- (8) Cover steering column to prevent paint damage.
- (9) Loosen steering column support nuts.
- (10) Remove screws attaching lower instrument panel to A-pillars and pull instrument panel to rear.
- (11) Remove insulation covering capillary tube and evaporator housing.
- (12) Disconnect wiring from thermostat (fig. 3E-27).
- (13) Disconnect thermostat control cable from thermostat.

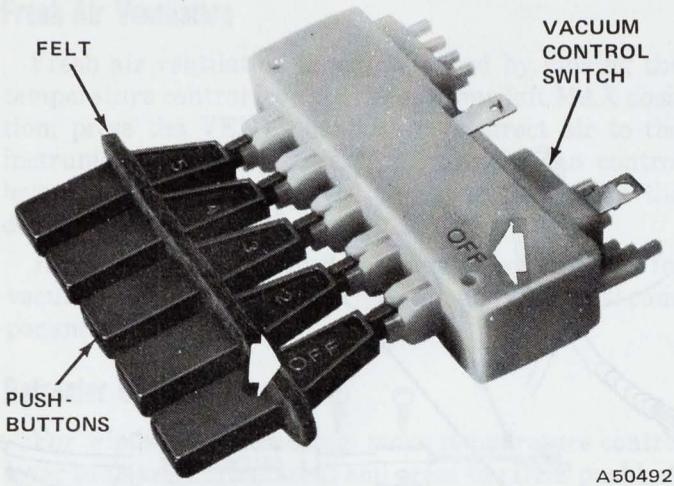


Fig. 3E-25 Installation of Pushbuttons on Vacuum Control Switch

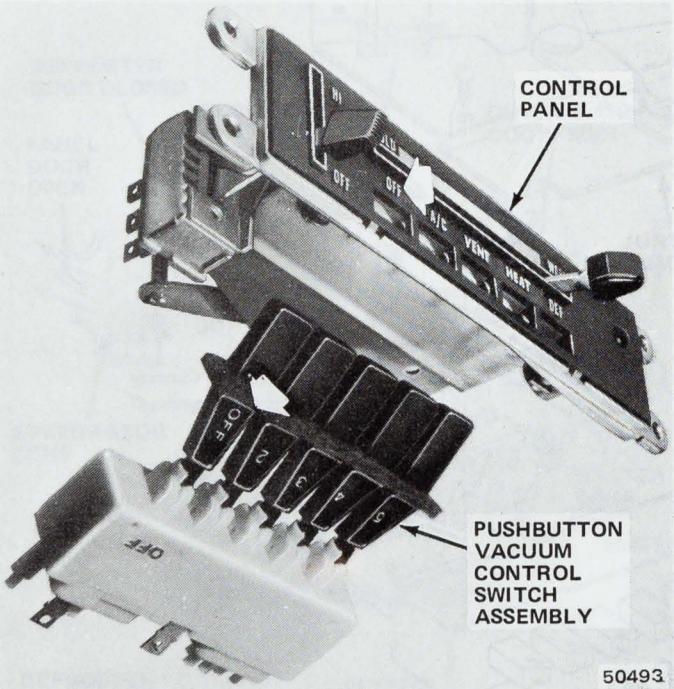


Fig. 3E-26 Installation of Pushbutton Vacuum Control Switch

- (14) Remove screw attaching capillary tube to evaporator housing.
- (15) Remove adjusting screws securing thermostat bracket to evaporator housing.
- (16) Remove thermostat capillary tube from evaporator housing.
- (17) Remove thermostat and bracket from car.
- (18) Remove attaching screws from thermostat and bracket. Remove thermostat.

Installation

- (1) Position thermostat on bracket and install attaching screws.

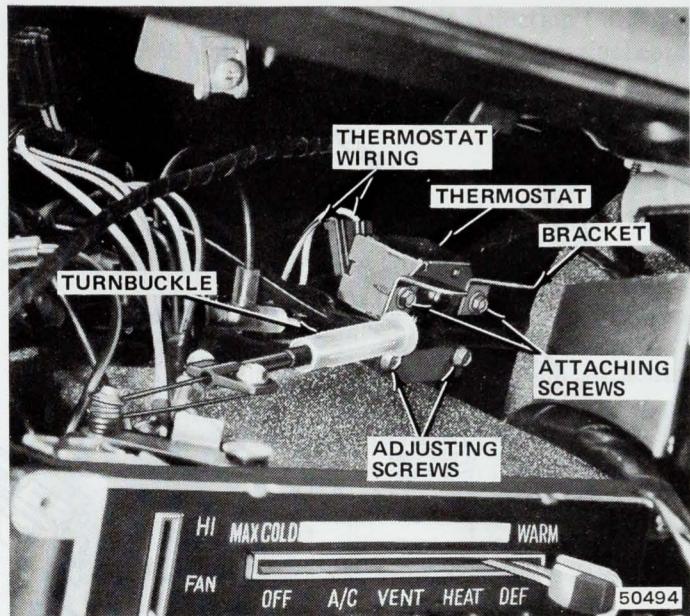


Fig. 3E-27 Temperature Control Thermostat and Blend-Air Door Cable Turnbuckle

(2) Carefully make a 90-degree bend (at colored tape) in capillary tube 4-1/8 inches from tube end and insert end into tube guide mounted on front of evaporator core between evaporator core fins.

(3) Install screw attaching capillary tube clip to evaporator housing.

(4) Position thermostat and bracket on evaporator housing and install adjusting screws, but do not tighten screws.

(5) Connect thermostat control cable to thermostat.

(6) Move temperature control lever to MAX COLD position and tighten thermostat adjusting screws with thermostat lever set to extreme end of travel.

(7) Connect wiring to thermostat.

(8) Place insulation in original position on evaporator housing.

(9) Return lower instrument panel to its original position and install screws attaching panel to A-pillars and tighten to 80 inch-pounds (9 Nm) torque.

(10) Install upper instrument panel-to-lower instrument panel attaching screws.

(11) Tighten steering column support nuts to 10 foot-pounds (13.6 Nm) torque.

(12) Remove protective covering from steering column.

(13) Install left corner and windshield side finish mouldings.

(14) Install instrument panel crash pad as detailed in Chapter 3C.

(15) Install radio, if equipped.

(16) Install radio overlay as detailed in Chapter 3C.

- (17) Install right and left cowl trim panels and scuff plates.
- (18) Connect battery negative cable.
- (19) Check operation of thermostat.
- (20) Reset clock, if equipped.

TEMPERATURE CONTROL THERMOSTAT ADJUSTMENT

- (1) Disconnect battery negative cable.
- (2) Remove radio overlay as detailed in Chapter 3C.
- (3) Remove radio, if equipped.
- (4) Loosen thermostat adjusting screws (fig. 3E-27).
- (5) Move temperature control lever to MAX COLD position and tighten adjustment screws with thermostat lever set to extreme end of travel.
- (6) Check temperature control thermostat operation for full travel of lever.
- (7) Install radio, if equipped.
- (8) Install radio overlay as detailed in Chapter 3C.
- (9) Connect battery negative cable.
- (10) Check operation of thermostat and system.
- (11) Reset clock, if equipped.

BLEND-AIR DOOR CABLE ADJUSTMENT

The heater blend-air door and air conditioning thermostat are controlled by the same control lever, but are operated with separate cables. The blend-air cable housing is equipped with a turnbuckle for cable adjustment. Turnbuckle is accessible through radio speaker grille opening in top of instrument panel.

- (1) Remove radio speaker grille from instrument panel.
- (2) Move temperature control lever to the far right position.
- (3) Reach through the speaker grille opening and rotate turnbuckle as required to obtain complete opening of blend-air door.
- (4) Check operation of blend-air door to assure complete opening and closing. Also, check for free movement of overcenter spring attached between crank arm and upper surface of heater housing to ensure positive closing of blend-air door.
- (5) Install radio speaker grille in instrument panel.

VACUUM CONTROLS

All vacuum motors that operate the various airflow doors are controlled by the vacuum control switch attached to the control panel.

For routing and to assure correct connections, the vacuum hoses and motors are color coded (fig. 3E-28) and the vacuum control switch nipples are identified in figure 3E-29.

The vacuum hose connector at the vacuum switch is molded to the hoses. If hoses are mispositioned at the connectors, the connector and hoses must be replaced.

Vacuum System Tests

Refer to the Control System Mode Selection Chart for vacuum motor/airflow door position and electrical component operation. Also, refer to figure 3E-28 for identification of vacuum hoses and figure 3E-29 for identification of vacuum control switch nipples and electrical terminals.

- (1) In event that a vacuum leak is suspected in the system, check and record amount of vacuum available at intake manifold source.
- (2) Install a vacuum gauge to outlet nipple of vacuum storage tank and check and record available vacuum at that point.
- (3) With gauge still installed, turn off engine and note if there is a vacuum drop. If a vacuum drop occurs, check valve in vacuum storage tank is defective and tank must be replaced.
- (4) If no vacuum drop occurs, install vacuum gauge at each inlet to vacuum control switch, start engine, and note vacuum.
- (5) Vacuum should be the same at each inlet as that noted at intake manifold and tank.
- (6) If vacuum reading is low, check hose for leaks.
- (7) If above vacuum checks do not indicate a leak, attach vacuum gauge to suspect hose at airflow door vacuum motor and check for low reading on gauge.
- (8) If vacuum reading drops, this indicates that either vacuum hose leaks or vacuum control switch is defective.
- (9) Replace defective components.
- (10) If vacuum reading does not drop, remove vacuum gauge and install hose on nipple of vacuum motor.
- (11) Press vacuum control switch pushbutton to obtain desired position to operate vacuum motor.
- (12) Watch vacuum motor for proper operation and listen for vacuum leak.
- (13) If vacuum motor does not operate and vacuum leak is indicated, replace vacuum motor.
- (14) If no vacuum leak is indicated, check airflow door for binding.
- (15) Correct airflow door binding condition and lubricate all pivot points with AMC Lubriplate, or equivalent.

VACUUM MOTORS

Floor Door Vacuum Motor

The floor door vacuum motor is located on top of the blower motor housing.

Replacement

Remove the instrument panel crash pad and upper instrument panel-to-lower instrument panel attaching screws as detailed in Chapter 3C.

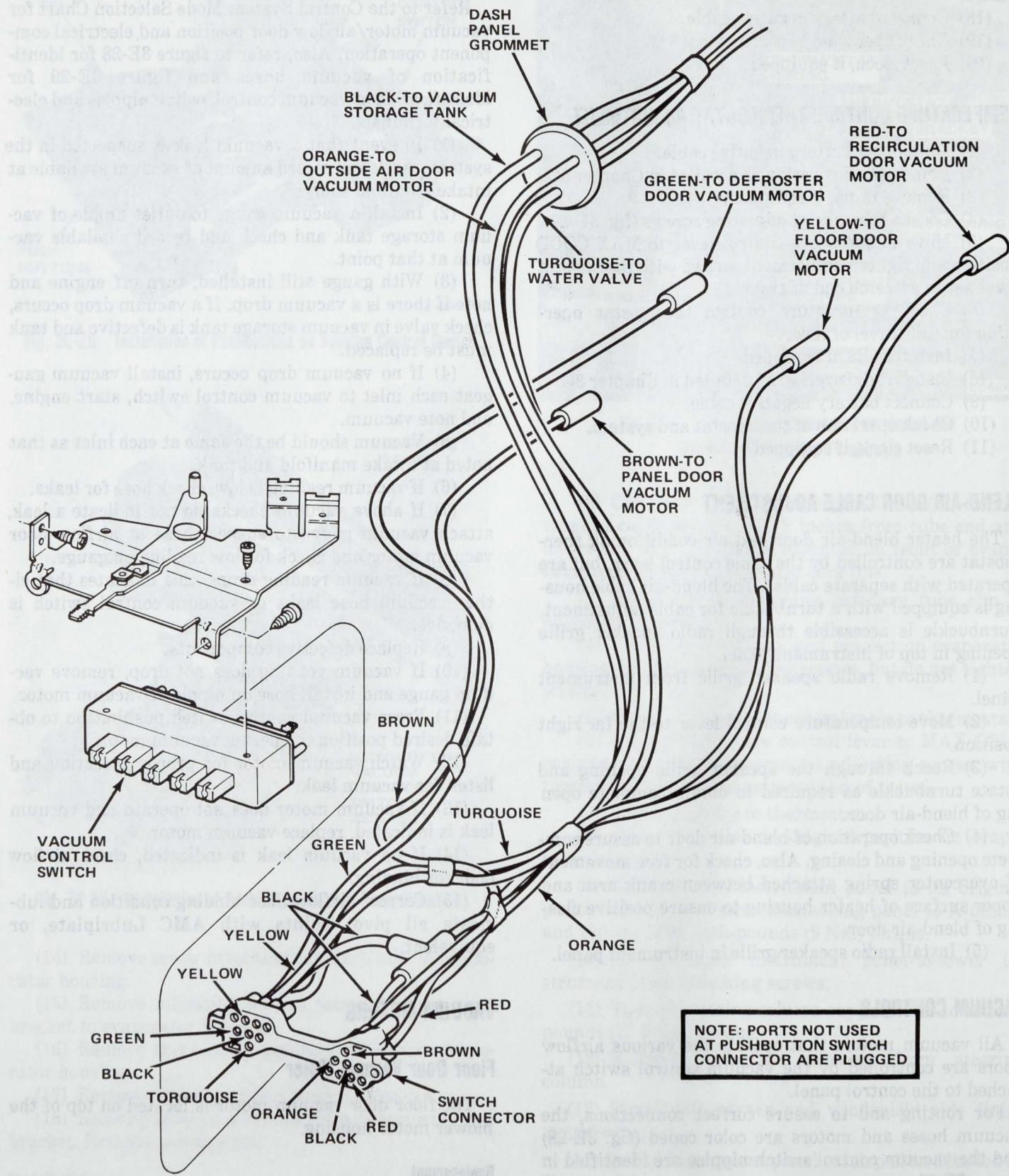


Fig. 3E-28 Identification of Vacuum Hoses

(1) Disconnect yellow vacuum hose from vacuum motor.

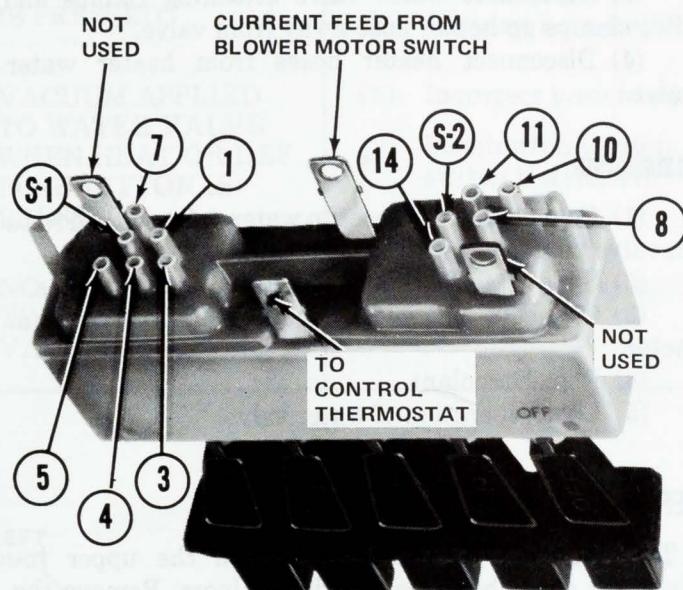
(2) Remove screws and clip attaching vacuum motor and replace motor.

Panel Door Vacuum Motor

The panel door vacuum motor is located on the front of the evaporator housing.

Replacement

- (1) Remove radio as described in Chapter 3V.
- (2) Disconnect brown vacuum hose from vacuum motor.



(3) Remove screws and clip attaching vacuum motor and replace motor.

Defroster Door Vacuum Motor

The defroster door vacuum motor is located at the left end of the evaporator housing.

Replacement

- (1) Disconnect green vacuum hose from vacuum motor.

- (2) From underneath the instrument panel, remove screws and clip attaching vacuum motor, and replace motor.

Recirculating Air Door Vacuum Motor

The recirculating air door vacuum motor is located on the right end of the blower motor housing.

Replacement

- (1) Remove instrument panel crash pad, upper instrument panel-to-lower instrument panel attaching screws and recirculating grille.

- (2) Disconnect red vacuum hose from vacuum motor.

- (3) Remove screws and clip attaching vacuum motor, and replace motor.

Outside Air Door Vacuum Motor

The outside air door vacuum motor is located on the right side of the heater core housing.

MODE POSITION								
	NIPPLE	VACUUM FUNCTION	OFF	A/C	VENT	HEAT	DEF.	HOSE COLOR REF.
PRIMARY VALVE	1	Outside Air Door	V	V				Orange
	3*	Not Used						Plug
	4*	Not Used						Plug
	7	Panel Door		V	V			Brown
	5	Recirc. Door		V				Red
	S1	Vacuum Source	V	V	V	V	V	Black
SECONDARY VALVE	8	Defrost Door	V	V	V			Green
	10*	Not Used						Plug
	11	Floor Door				V		Yellow
	14	Water Valve	V	V	V			Turquoise
	S2	Vacuum Source	V	V	V	V	V	Black

* These nipples open but not used for A/C switch—to be closed by means of plugs in vacuum harness connectors.

V = vacuum
S = seal
blank = vent

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Fig. 3E-29 Identification of Vacuum Control Switch Nipples and Electrical Terminals

Replacement

- (1) Disconnect orange vacuum hose from vacuum motor.
- (2) Remove screws and clip attaching vacuum motor and replace motor.

BLOWER MOTOR RELAY

The blower motor relay provides low resistance electrical feed to the blower motor for maximum speed operation. It is mounted on the right A-pillar above the cowl trim panel. It is serviced as an assembly and cannot be repaired.

BLOWER MOTOR RESISTOR

The blower motor resistor is connected in series between the blower motor switch and blower motor. It serves to reduce blower speed in LOW, MEDIUM, and MEDIUM HIGH positions.

The resistor is located in the bottom of the blower housing. It can be serviced by removing two attaching screws and dropping the resistor out of the blower housing.

VACUUM STORAGE TANK

The vacuum storage tank stores reserve vacuum for the vacuum-operated switch and motors. The tank has a check valve to prevent losing tank vacuum to the engine when intake manifold vacuum is low. The tank and check valve are serviced as an assembly. Refer to Vacuum System Tests for diagnosis.

HEATER WATER VALVE

The heater water valve regulates coolant flow to the heater core. It is vacuum operated by the pushbutton vacuum control switch and requires vacuum to close or shut off flow to the heater core. Vacuum is applied to the valve when the OFF, A/C or VENT pushbutton is pressed. The water valve is installed in the inlet heater hose which passes coolant to the heater core.

Water Valve Test

A vacuum gauge and tee are required for this test.

- (1) Disconnect turquoise vacuum hose from heater water valve.
- (2) Connect tee between vacuum hose and water valve nipple.
- (3) Start engine.
- (4) Press HEAT or DEF pushbutton. No vacuum should be indicated on gauge.
- (5) Observe water valve while pressing OFF, A/C or VENT pushbutton. Water valve should close and manifold vacuum should be indicated on gauge.

(6) Observe water valve while pressing HEAT or DEF pushbutton. Water valve should open and no vacuum should be indicated.

If heater water valve operated as described in the above test, it is operating properly. If it did not operate as described, refer to the following Water Valve Diagnosis Chart.

Removal

- (1) Drain approximately two quarts of coolant from radiator.
- (2) Disconnect turquoise vacuum line from heater water valve.
- (3) Disconnect water valve attaching clamps and slide clamps up heater hose away from valve.
- (4) Disconnect heater hoses from heater water valve.

Installation

- (1) Connect heater hoses to water valve with arrows on valve pointing toward heater core.
- (2) Slide attaching clamps back over valve nipples.
- (3) Connect turquoise vacuum line to vacuum motor.
- (4) Replace coolant.
- (5) Check operation of water valve.

DEFROSTER DUCT

The defroster duct is attached to the upper instrument panel by three plastic retainers. Remove the upper instrument panel as detailed in Chapter 3C to service the defroster duct.

AIR DISCHARGE DUCTS

The air discharge ducts (fig. 3E-30) are attached to the lower instrument panel. The outlets are attached to the headlamp switch overlay, steering tube cover, lower instrument panel, and instrument panel crash pad.

Remove the headlamp switch overlay to service left duct outlet.

Remove the steering tube cover to service the left intermediate duct outlet.

Remove the lower instrument panel to service the center duct outlet.

Remove the instrument panel crash pad to service the right duct outlet.

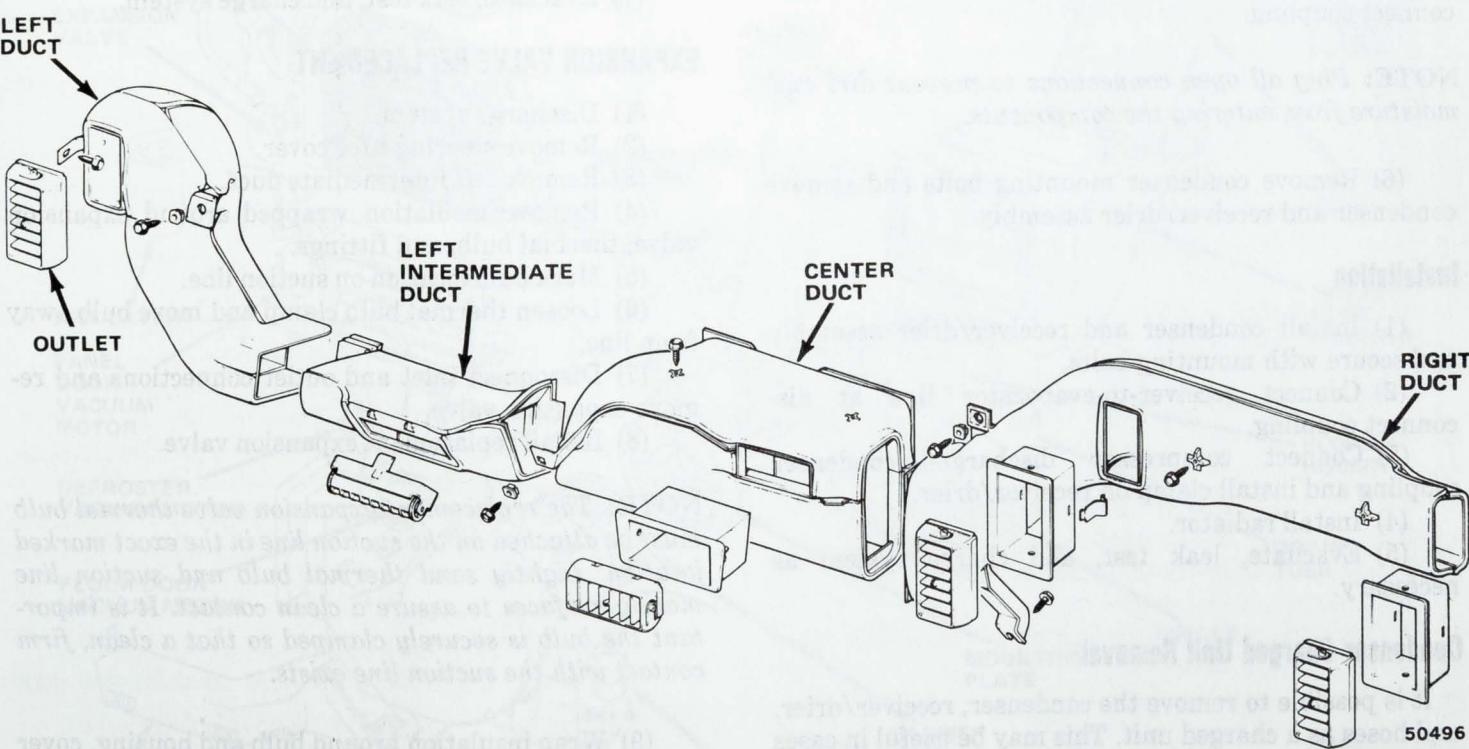
Remove the instrument panel crash pad and lower instrument panel as detailed in Chapter 3C to service the center and right air discharge ducts. The center duct has two attaching screws and the right duct has four attaching screws.

The left and left intermediate air discharge ducts are removed in the following procedure.

Water Valve Diagnosis

Condition	Possible Cause	Correction
WATER VALVE DOES CLOSE WITH APPLIED VACUUM	(1) Defective water valve	(1) Replace water valve
NO VACUUM APPLIED TO WATER VALVE WHEN OFF A/C, OR VENT PUSHBUTTON IS PRESSED	(1) Incorrect hose routing (2) Pushbutton vacuum control switch defective (3) Vacuum hose leaking	(1) Refer to figure 3E-28 (2) Replace pushbutton vacuum control switch (3) Correct as required
VACUUM APPLIED TO WATER VALVE WHEN HEAT OR DEF. PUSHBUTTON IS PRESSED	(1) Incorrect hose routing (2) Pushbutton vacuum control switch is defective	(1) Refer to figure 3E-28 (2) Replace pushbutton vacuum control switch
NO VACUUM APPLIED TO THE WATER VALVE IN ANY MODE	(1) Blocked or leaking vacuum hose	(1) Correct as required

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Fig. 3E-30 Air Discharge Ducts and Outlets

Removal

- (1) Remove steering tube cover.
- (2) Remove two left intermediate duct-to-lower instrument panel attaching screws.
- (3) Remove left intermediate air discharge duct.
- (4) Remove headlamp switch overlay.
- (5) Remove left air discharge duct-to-lower instrument panel attaching screws.
- (6) Remove left air discharge duct.

Installation

- (1) Install left air discharge duct and attaching screws.
- (2) Install headlamp switch overlay.
- (3) Install left intermediate air discharge duct and attaching screws.
- (4) Install steering tube cover.

CONDENSER**Removal**

- (1) Discharge system.
- (2) Remove radiator.
- (3) Disconnect compressor discharge-to-condenser coupling.
- (4) Remove clamp from compressor discharge hose at receiver/drier.
- (5) Disconnect receiver-to-evaporator line at disconnect coupling.

NOTE: Plug all open connections to prevent dirt and moisture from entering the components.

- (6) Remove condenser mounting bolts and remove condenser and receiver/drier assembly.

Installation

- (1) Install condenser and receiver/drier assembly and secure with mounting bolts.
- (2) Connect receiver-to-evaporator line at disconnect coupling.
- (3) Connect compressor discharge-to-condenser coupling and install clamp on receiver/drier.
- (4) Install radiator.
- (5) Evacuate, leak test, and charge system as necessary.

Condenser Charged Unit Removal

It is possible to remove the condenser, receiver/drier, and hoses as a charged unit. This may be useful in cases where other service is necessary and the condenser needs to be moved to facilitate service.

- (1) Front-seat both service valves to isolate the compressor.

- (2) Bleed refrigerant charge from compressor slowly to prevent loss of compressor oil.
- (3) Disconnect discharge service valve and hose assembly from compressor. Plug all open connections.
- (4) Disconnect receiver outlet at the disconnect coupling.
- (5) Remove condenser, receiver/drier, and lines.

NOTE: After the system has been assembled, the compressor must be purged of air before operating.

Receiver/Drier Replacement

The condenser must be removed to gain access to the receiver attaching screws.

NOTE: The receiver/drier must be replaced anytime the system has been left open to atmosphere, due to a leak in the system, or whenever a compressor failure caused debris to be introduced into the system.

- (1) Remove condenser.
- (2) Disconnect receiver/drier inlet line.
- (3) Remove receiver/drier from condenser.

NOTE: Keep receiver/drier openings plugged at all times to prevent moisture from entering the receiver/drier.

- (4) Install replacement receiver/drier.
- (5) Connect receiver/drier inlet line.
- (6) Install condenser.
- (7) Evacuate, leak test, and charge system.

EXPANSION VALVE REPLACEMENT

- (1) Discharge system.
- (2) Remove steering tube cover.
- (3) Remove left intermediate duct.
- (4) Remove insulation wrapped around expansion valve, thermal bulb, and fittings.
- (5) Mark bulb location on suction line.
- (6) Loosen thermal bulb clamp and move bulb away from line.
- (7) Disconnect inlet and outlet connections and remove expansion valve.
- (8) Install replacement expansion valve.

NOTE: The replacement expansion valve thermal bulb must be attached on the suction line in the exact marked location. Lightly sand thermal bulb and suction line mating surfaces to assure a clean contact. It is important the bulb is securely clamped so that a clean, firm contact with the suction line exists.

- (9) Wrap insulation around bulb and housing, cover attaching screws after bulb has been clamped to line.
- (10) Evacuate, leak test, and charge system.
- (11) Install left intermediate duct.
- (12) Install steering tube cover.

EVAPORATOR HOUSING AND CORE ASSEMBLY

To make servicing easier, the evaporator housing assembly should be removed with the evaporator core in a discharged state. Plug all lines to prevent moisture from entering the system.

Removal

- (1) Discharge system.
- (2) Disconnect battery negative cable.
- (3) Remove hood lock-to-support attaching screws.
- (4) Remove brace-to-hood lock support attaching nut and bolt.
- (5) Remove heater core housing (fig. 3E-31) as follows:
 - (a) In engine compartment, remove heater core housing nuts.

(b) Remove heater core housing-to-dash attaching screw, located at bottom center of heater core housing.

(c) Remove heater core housing-to-inner fender support bracket attaching screw.

(d) Disconnect blend-air door cable and vacuum hoses.

(e) Pull heater housing out until clear of mounting studs. Lower front of housing and raise rear of housing to clear dash. Place housing on top of engine.

(6) Remove evaporator housing-to-dash panel attaching nuts.

(7) Loosen blower housing-to-dash panel attaching screw.

(8) Remove crash pad as follows:

(a) Remove right corner and side windshield finish moulding.

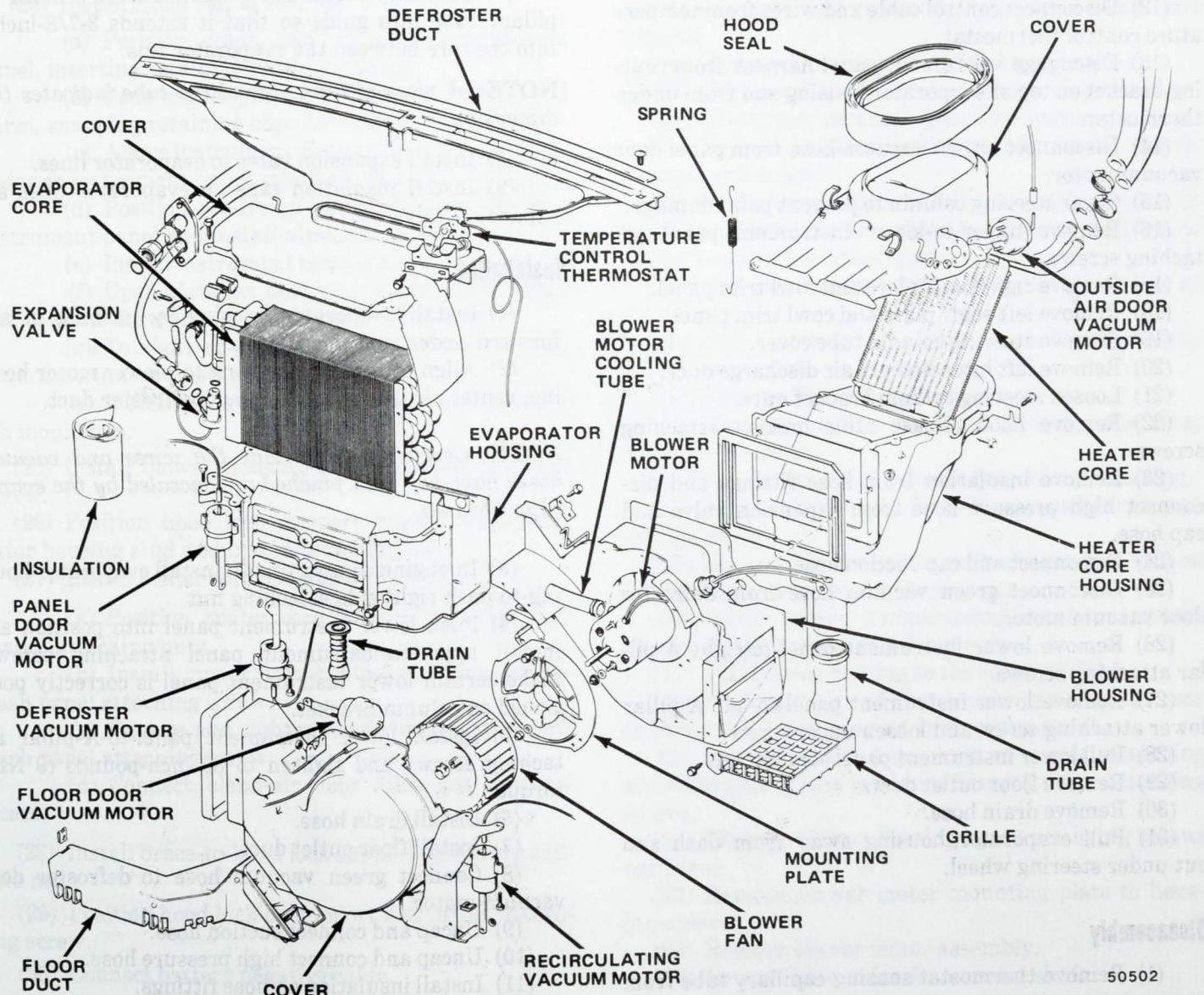


Fig. 3E-31 Evaporator Housing, Core, Blower Motor Housing, and Heater Core Housing Components

- (b) Remove crash pad-to-lower instrument panel attaching screws located to right of glovebox.
- (c) Open glovebox door and remove upper crash pad-to-lower instrument panel attaching screws.
- (d) Remove instrument cluster bezel.
- (e) Remove headlamp switch overlay-to-lower instrument panel attaching screws and pull away from panel.
- (f) Above instrument cluster, remove crash pad-to-lower instrument panel attaching screws.
- (g) Pull and lift crash pad away from upper and lower instrument panels until crash pad retaining clips have separated from upper instrument panel.
- (h) Remove crash pad.
- (9) Remove left corner and side windshield finish moulding.
- (10) Remove radio overlay panel and radio, if equipped.
- (11) Disconnect speedometer cable.
- (12) Disconnect control cable and wires from temperature control thermostat.
- (13) Disengage instrument panel harness from routing bracket on top of evaporator housing and from under thermostat.
- (14) Disconnect brown vacuum hose from panel door vacuum motor.
- (15) Cover steering column to prevent paint damage.
- (16) Remove upper-to-lower instrument panel attaching screws.
- (17) Remove right scuff plate and cowl trim panel.
- (18) Remove left scuff plate and cowl trim panel.
- (19) Remove steering column tube cover.
- (20) Remove left intermediate air discharge duct.
- (21) Loosen steering column bracket nuts.
- (22) Remove hood release cable bracket attaching screws.
- (23) Remove insulation from hose fittings and disconnect high pressure hose from expansion valve and cap hose.
- (24) Disconnect and cap suction hose.
- (25) Disconnect green vacuum hose from defroster door vacuum motor.
- (26) Remove lower instrument panel-to-right A-pillar attaching screws.
- (27) Remove lower instrument panel-to-left A-pillar lower attaching screw and loosen upper screw.
- (28) Pull lower instrument panel straight out.
- (29) Remove floor outlet duct.
- (30) Remove drain hose.
- (31) Pull evaporator housing away from dash and out under steering wheel.

Disassembly

- (1) Remove thermostat sensing capillary tube from case.
- (2) Disconnect defroster vacuum motor from door.

- (3) Remove evaporator housing cover attaching screws and cover.
- (4) Remove panel door vacuum motor to gain access to evaporator core attaching screws.
- (5) Remove screws attaching air baffles to housing.
- (6) Remove evaporator core attaching screws and evaporator core.
- (7) Remove insulation tape from expansion valve.
- (8) Remove expansion valve from evaporator lines.

Assembly

- (1) Install evaporator core and attaching screws.
- (2) Install screws attaching air baffles to housing.
- (3) Install panel door vacuum motor.
- (4) Reseal housing and cover.
- (5) Install evaporator housing cover and attaching screws.
- (6) Connect defroster vacuum motor to door.
- (7) Carefully install tip of temperature sensing capillary tube into guide so that it extends 3-7/8-inches into the core between the evaporator fins.
- NOTE:** A piece of tape around the tube indicates this dimension.
- (8) Install expansion valve to evaporator lines.
- (9) Install insulation tape on evaporator lines and expansion valve.

Installation

- (1) Install evaporator housing by pushing in and forward under steering column.
- (2) Align evaporator housing to blower motor housing, center air discharge duct, and defroster duct.
- NOTE:** Carefully check that the wires and vacuum hoses have not been pinched or concealed by the evaporator housing.
- (3) In engine compartment, install evaporator housing-to-dash right side attaching nut.
- (4) Push lower instrument panel into position and install upper-to-instrument panel attaching screws. Make certain lower instrument panel is correctly positioned on column bracket.
- (5) Install lower instrument panel-to-A-pillar attaching screws and tighten to 80 inch-pounds (9 Nm) torque.
- (6) Install drain hose.
- (7) Install floor outlet duct.
- (8) Connect green vacuum hose to defroster door vacuum motor.

- (9) Uncap and connect suction hose.
- (10) Uncap and connect high pressure hose.
- (11) Install insulation on hose fittings.
- (12) Position hood release cable bracket on lower instrument panel and install attaching screws.

- (13) Tighten steering column bracket nuts to 10 foot-pounds (13.6 Nm) torque.
- (14) Install left intermediate air discharge duct.
- (15) Install steering column tube cover.
- (16) Install left cowl trim panel and scuff plate.
- (17) Install right cowl trim panel and scuff plate.
- (18) Connect brown vacuum hose to panel door vacuum motor.

(19) Engage instrument panel harness in routing bracket on top of evaporator housing and under thermostat.

(20) Connect control cable and wires to temperature control thermostat.

(21) Connect speedometer cable.

(22) Install radio, if equipped, and radio overlay panel.

(23) Install left side and corner windshield finish mouldings.

(24) Install crash pad as follows:

(a) Position crash pad on upper instrument panel, inserting retaining clips into panel.

(b) Push crash pad toward upper instrument panel, snapping retaining clips into panel.

(c) Above instrument cluster, install crash pad-to-lower instrument panel attaching screws.

(d) Position headlamp switch overlay on lower instrument panel and install attaching screws.

(e) Install instrument cluster bezel.

(f) Open glovebox door and install upper crash pad-to-lower instrument panel attaching screws.

(g) To right of glovebox, install crash pad-to-lower instrument panel attaching screws.

(h) Install right side and corner windshield finish mouldings.

(25) Install blower housing-to-dash panel attaching screw.

(26) Position hood lock support bracket on evaporator housing stud and install attaching nut.

(27) Install heater core housing as follows:

(a) Position heater core housing on studs and install attaching nuts.

(b) Install upper left heater core housing-to-dash panel attaching screw.

(c) Engage and tighten heater core housing-to-dash panel attaching screw.

(d) Connect blend-air door cable and vacuum hoses.

(28) Install brace-to-hood lock support attaching bolt and nut.

(29) Position hood lock on support and install attaching screw.

(30) Connect battery negative cable.

(31) Evacuate, leak test, and charge system. Check system operation.

BLOWER MOTOR AND BLOWER HOUSING

The blower housing assembly is mounted to the dash panel in the passenger compartment. It must be removed to service the blower motor.

Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel crash pad as detailed in Chapter 3C.
- (3) Remove radio overlay.
- (4) Remove right scuff plate and cowl trim panel.
- (5) Remove instrument panel-to-right A-pillar attaching screws.
- (6) Remove two upper instrument panel-to-lower instrument panel attaching screws above glove box.
- (7) Disconnect blend-air door cable from heater core housing.
- (8) Remove housing brace-to-floorpan screw.
- (9) Disconnect wires at blower motor resistor.
- (10) Disconnect vacuum hoses from vacuum motors.
- (11) Remove heater core housing (fig. 3E-31) attaching nuts and screw.
- (12) Push heater core housing attaching bolt 1/2-inch toward inside of car, allowing for easier removal of blower housing from dash panel.
- (13) Remove vacuum hoses from housing clip and set lines aside.
- (14) Pull heater core housing forward and set atop upper control arm.
- (15) Remove floor outlet duct.
- (16) Disconnect white wire from blower motor relay harness connector.
- (17) Disconnect vacuum hoses from blower housing.
- (18) Remove black wire from blower motor relay attaching screw.
- (19) Remove blower housing attaching screw located in engine compartment on dash panel.
- (20) Inside engine compartment, loosen evaporator housing-to-dash panel attaching nuts.
- (21) Pull blower housing to the rear and down.
- (22) Pull right side of instrument panel to the rear and remove blower housing from under panel.
- (23) Remove floor door vacuum motor attaching screws to gain access to blower housing cover attaching screws.
- (24) Remove blower housing cover attaching screws and cover.
- (25) Remove blower motor mounting plate to housing screws.
- (26) Remove blower motor assembly.
- (27) Remove blower fan from motor shaft.
- (28) Remove blower motor mounting plate from motor.

Installation

- (1) Install blower motor mounting plate on motor (fig. 3E-32).
- (2) Install blower fan on motor shaft.
- (3) Install fan retainer clip (fig. 3E-32).

NOTE: For maximum output, clearance between fan and mounting plate must be as specified in figure 3E-33.

- (4) Install blower motor assembly in housing.

NOTE: Align cooling tube with hole in housing and motor.

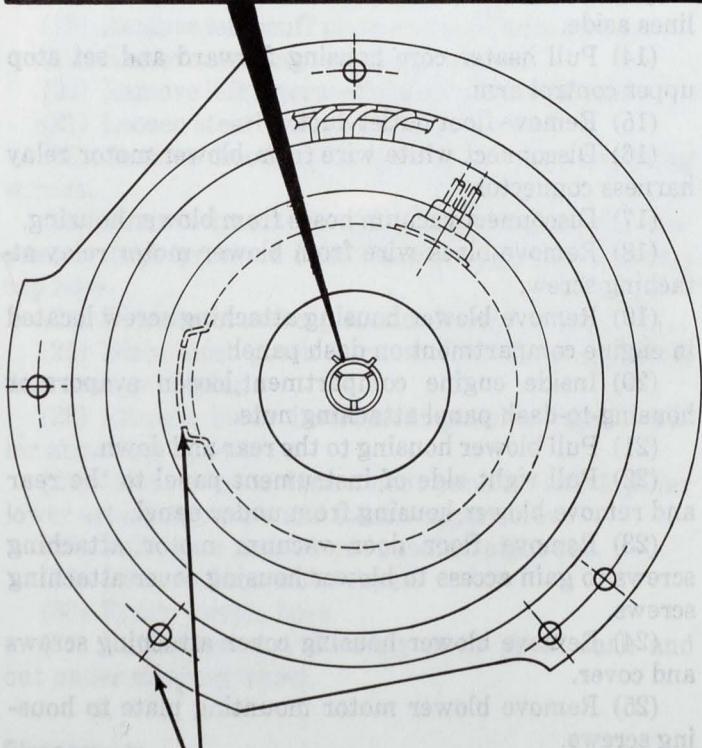
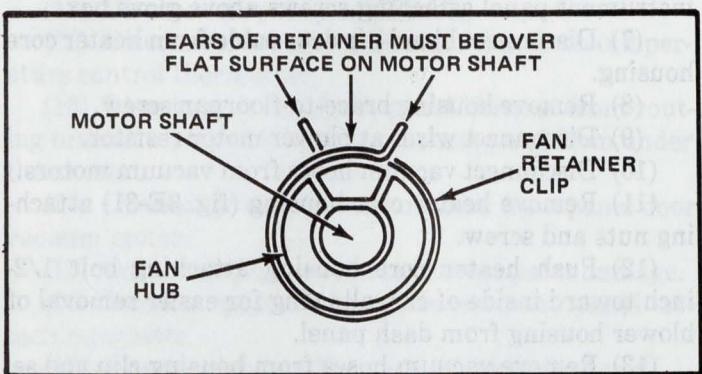


Fig. 3E-32 Blower Fan Retainer Clip Installation

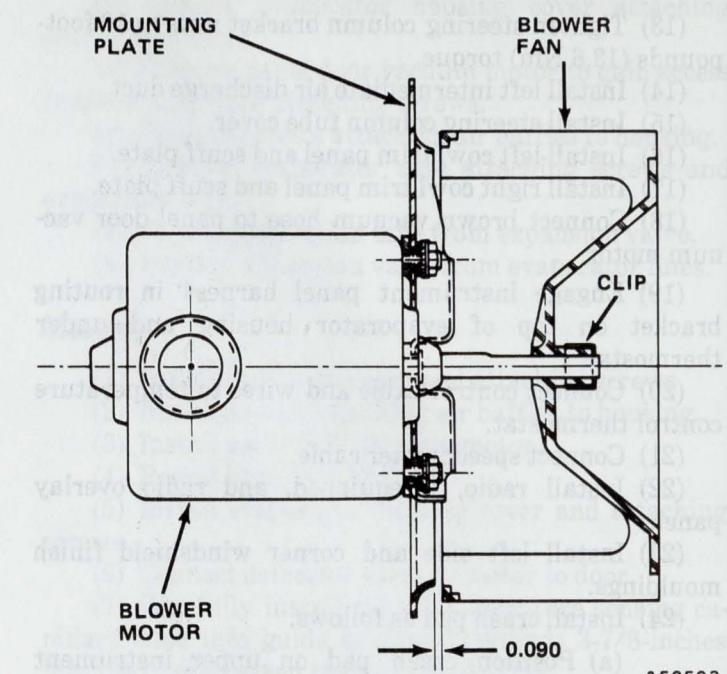


Fig. 3E-33 Fan Mounting Plate Clearance

- (5) Install blower housing cover and attaching screws.
- (6) Reseal housing and cover.
- (7) Position blower housing under instrument panel, on dash panel.
- (8) Tighten evaporator housing attaching nuts.
- (9) Position heater core housing on dash panel and install attaching nuts and screw.
- (10) Connect yellow vacuum hose to floor door vacuum motor.
- (11) Connect red vacuum hose to recirculation door vacuum motor on dash panel.
- (12) Connect wires to blower motor resistor.
- (13) Install blower housing brace-to-floorpan screw.
- (14) Install floor outlet duct.
- (15) Connect wires to blower motor relay.
- (16) Install vacuum hoses on heater core housing clip.
- (17) Connect blend-air door cable.
- (18) Install upper instrument panel-to-lower instrument panel attaching screws.
- (19) Install instrument panel-to-A-pillar attaching screws and tighten to 80 inch-pounds (9 Nm) torque.
- (20) Install radio overlay.
- (21) Install right cowl trim panel and scuff plate.
- (22) Install crash pad as outlined in Chapter 3C.
- (23) Install floor duct grille.
- (24) Connect battery negative cable.
- (25) Adjust blend-air door cable.
- (26) Check operation of system.
- (27) If equipped with clock, reset clock to correct time.

HEATER CORE REPLACEMENT

Removal

- (1) Drain approximately two quarts of coolant from radiator.
- (2) Disconnect heater hoses from core tubes and install plugs in heater hoses.
- (3) Remove vacuum hoses from heater core housing cover clip and move lines aside.
- (4) Disconnect orange outside air door vacuum hose from vacuum motor.
- (5) Remove heater core housing cover (fig. 3E-31) screws.
- (6) Disconnect overcenter spring from cover and remove cover.

- (7) Remove heater core-to-housing attaching screws and remove heater core.

Installation

- (1) Install heater core in housing and install attaching screws.
- (2) Install cover and connect overcenter spring.
- (3) Reseal housing and cover.
- (4) Install cover screws.
- (5) Connect orange outside air door vacuum hose to vacuum motor.
- (6) Install vacuum hoses at cover clip.
- (7) Remove plugs and connect heater hoses to core tubes.
- (8) Replace coolant.
- (9) Check operation of system.

GREMLIN, CONCORD, AMX AIR CONDITIONING

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GENERAL

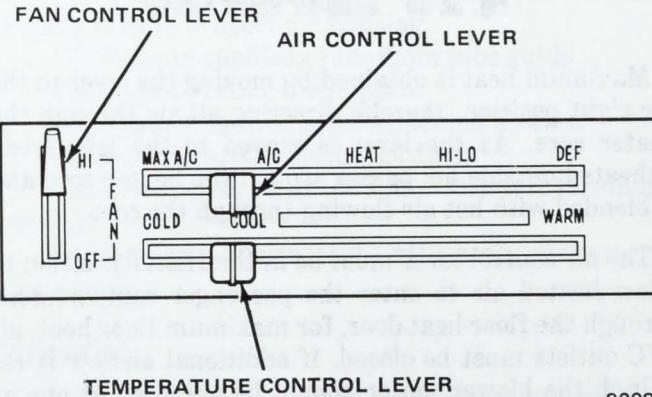
The Air Conditioning System is a heater and air conditioner combined in an integral unit. The unit uses fresh air for heater operation and fresh or recirculated air for air conditioner operation.

The cooling unit is mounted on the dash panel and the cooled air is discharged from the instrument panel registers and package tray registers. The registers are adjustable to provide general or localized cooling. To cool the car interior efficiently, the windows and ventilators should be closed while operating the air conditioning. However, if the car has been parked for a period of time in the sun, open the windows to expel the accumulated heat prior to operating the air conditioning. The engine should be run well above idle speed for more efficient cooling when the system is operated with the car parked or standing.

CONTROL OPERATION AND AIRFLOW

Control Panel

The heater temperature, fan, air, and air conditioning controls (fig. 3E-34) are located in the instrument panel center housing.



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Fig. 3E-34 Control Panel

The temperature control lever regulates the quantity of heat entering the car by controlling the blend-air door. It also controls a vacuum operated water valve in the heater input line and the A/C thermostat setting.

The air control lever controls the airflow for air conditioning, heating and defrosting. The air conditioning thermostat, cable controlled by the temperature control lever, regulates the temperature of the cool air flowing

through the air conditioning registers.

The fan switch, located on the left side of the control panel, operates the blower motor through three speeds. This switch must be ON to operate the air conditioner.

Heater Operation

Moving the temperature control lever toward the WARM position operates the blend-air door and opens the vacuum operated water valve allowing full coolant flow through the heater core. The blend-air door controls the temperature inside the passenger compartment by regulating the amount of air passing through and around the heater core (fig. 3E-35).

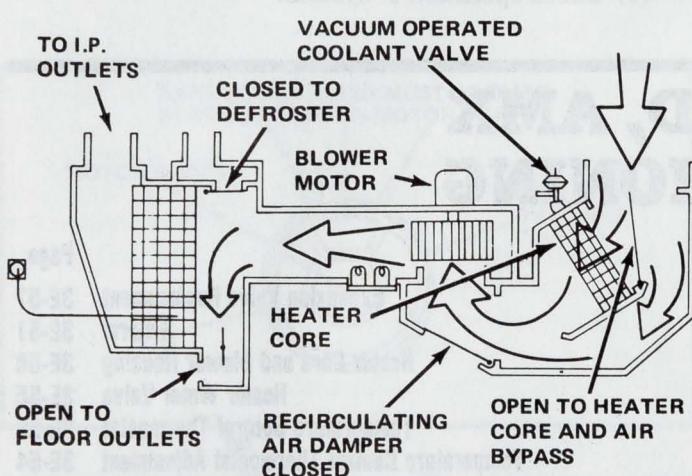


Fig. 3E-35 Blend-Air Heater Airflow

Maximum heat is obtained by moving the lever to the far right position, thereby directing all air through the heater core. As the lever is moved to the left, fresh unheated outside air passes around the heater core and is blended with hot air flowing through the core.

The air control lever must be in the HEAT position to allow heated air to enter the passenger compartment through the floor heat door, for maximum floor heat, all A/C outlets must be closed. If additional airflow is required, the blower motor should be operated at one of the available speeds.

Placing the air control lever in the HI-LO position directs air to the windshield and floor. The fan switch and temperature control lever should be adjusted to obtain the desired degree of airflow and heat.

When the temperature control lever is moved to COOL position, a vacuum switch mounted on the control panel directs vacuum to the vacuum-operated water valve in the heater input line, stopping the flow of coolant.

Defroster Operation

Windshield defrosting is obtained by moving the air control lever to the DEF position. The fan switch and temperature control lever should be adjusted to obtain the desired degree of airflow and heat. In the DEF position, all air is directed through the defrost door and onto the windshield (fig. 3E-36).

When the temperature control lever is moved to COOL position, a vacuum switch mounted on the control panel directs vacuum to the vacuum-operated water valve in the heater input line, stopping the flow of coolant.

NOTE: For maximum windshield defrosting, all A/C outlets must be closed.

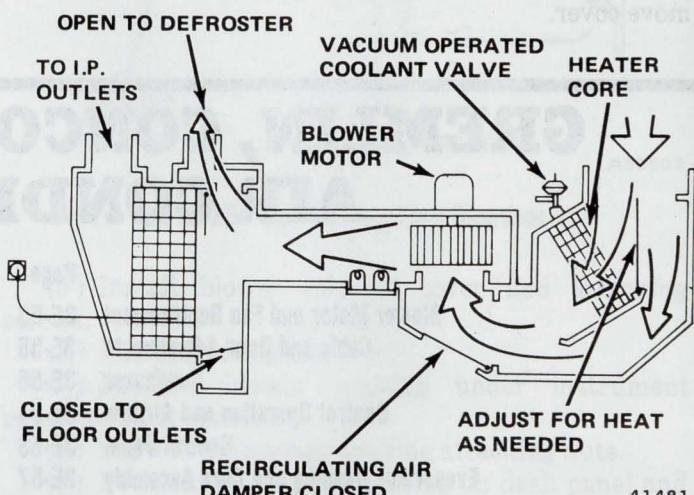


Fig. 3E-36 Defroster Airflow

Fresh Air Ventilation

The system has one fresh air vent located on the left side of the cowl plenum chamber floor. The cable controlled vent knob is located between the steering column and the parking brake release handle.

Air Conditioner Operation

Move the temperature control lever to the COOL position and move the fan control switch to any operating position. Move the air control lever to the A/C position to energize the compressor clutch switch, close the water valve and partially open the recirculating air door.

NOTE: The thermostat receives its electrical supply from the fan switch, through the panel mounted microswitch, which must be in the operating position (low, medium, or high) for the thermostat to energize the magnetic clutch.

When the temperature control lever is moved to COOL position, a vacuum switch mounted on the control panel directs vacuum to the vacuum-operated water valve in the heater input line, stopping the flow of coolant.

The control also moves the blend-air door, stopping the flow of air through the heater core.

Operating the system in MAX A/C position provides 100% recirculated air.

CAUTION: Do not operate the system in the COLD A/C position in high humidity conditions, as it will cause evaporator core freezeup resulting in a loss of air cooling.

Air Conditioning Airflow

Air is drawn into the recirculation opening on the heater core housing from the interior or from outside dependent on air control lever setting (refer to Air Conditioning Operation). The air is then directed into the blower fan housing. The blower forces the air into the evaporator housing where it is directed through the evaporator core and cooled. The cooled air is directed to the discharge outlets (fig. 3E-37).

The individually adjustable panel and package tray registers direct the cool air into the car.

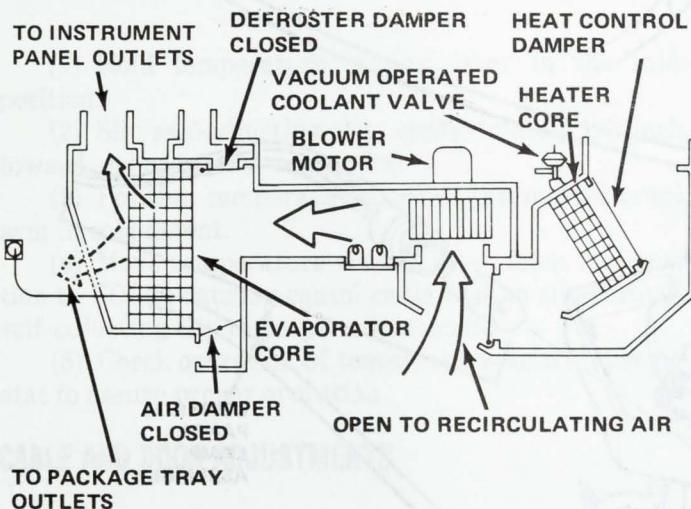


Fig. 3E-37 Air Conditioning Airflow

CONTROL PANEL

Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument panel center housing as detailed in Chapter 3C.
- (3) Remove control panel attaching screws.
- (4) Remove center upper discharge duct.
- (5) Remove radio, if equipped.
- (6) Remove attaching screws and lower control (fig. 3E-38) and disconnect cables from control levers.
- (7) Disconnect vacuum hose assembly from vacuum switch.
- (8) Disconnect electrical connectors.

- (9) Remove control panel.

NOTE: The blower control switch attaching screw is accessible from the bottom of the control assembly after removal.

Installation

- (1) Connect electrical connectors.
- (2) Connect vacuum hose assembly to vacuum switch.
- (3) Connect cables to control levers (see figure 3E-39 for proper cable position and alignment).
- (4) Position control panel and install attaching screws.
- (5) Install center upper discharge duct.
- (6) Install radio, if equipped.
- (7) Install instrument panel center housing as detailed in Chapter 3C.
- (8) Move control levers to full travel in both directions to adjust cables.
- (9) Connect battery negative cable.
- (10) Check system operation.
- (11) If equipped with clock, reset clock to correct time.

TEMPERATURE CONTROL THERMOSTAT

Removal

- (1) Disconnect battery negative cable.
- (2) Remove package tray outlet assembly and instrument panel center housing as detailed in Chapter 3C.
- (3) Remove screw and clip attaching thermostat capillary tube to evaporator housing.
- (4) Remove capillary tube from tube guide.
- (5) Remove radio, if equipped.
- (6) Remove control panel attaching screws.
- (7) Remove center discharge duct.
- (8) Lower control panel and disconnect thermostat wiring.
- (9) Remove thermostat attaching screws and thermostat.

Installation

- (1) Install thermostat on bracket and install attaching screws.
- (2) Connect thermostat wiring and cable.
- (3) Install center discharge duct.
- (4) Install control panel attaching screws.
- (5) Install radio, if equipped.
- (6) Route capillary tube to evaporator housing. Make a 90° bend (at colored tape) in capillary tube and insert end into tube guide mounted on front of evaporator housing between evaporator core fins.
- (7) Install clip and screw attaching capillary tube to evaporator housing.

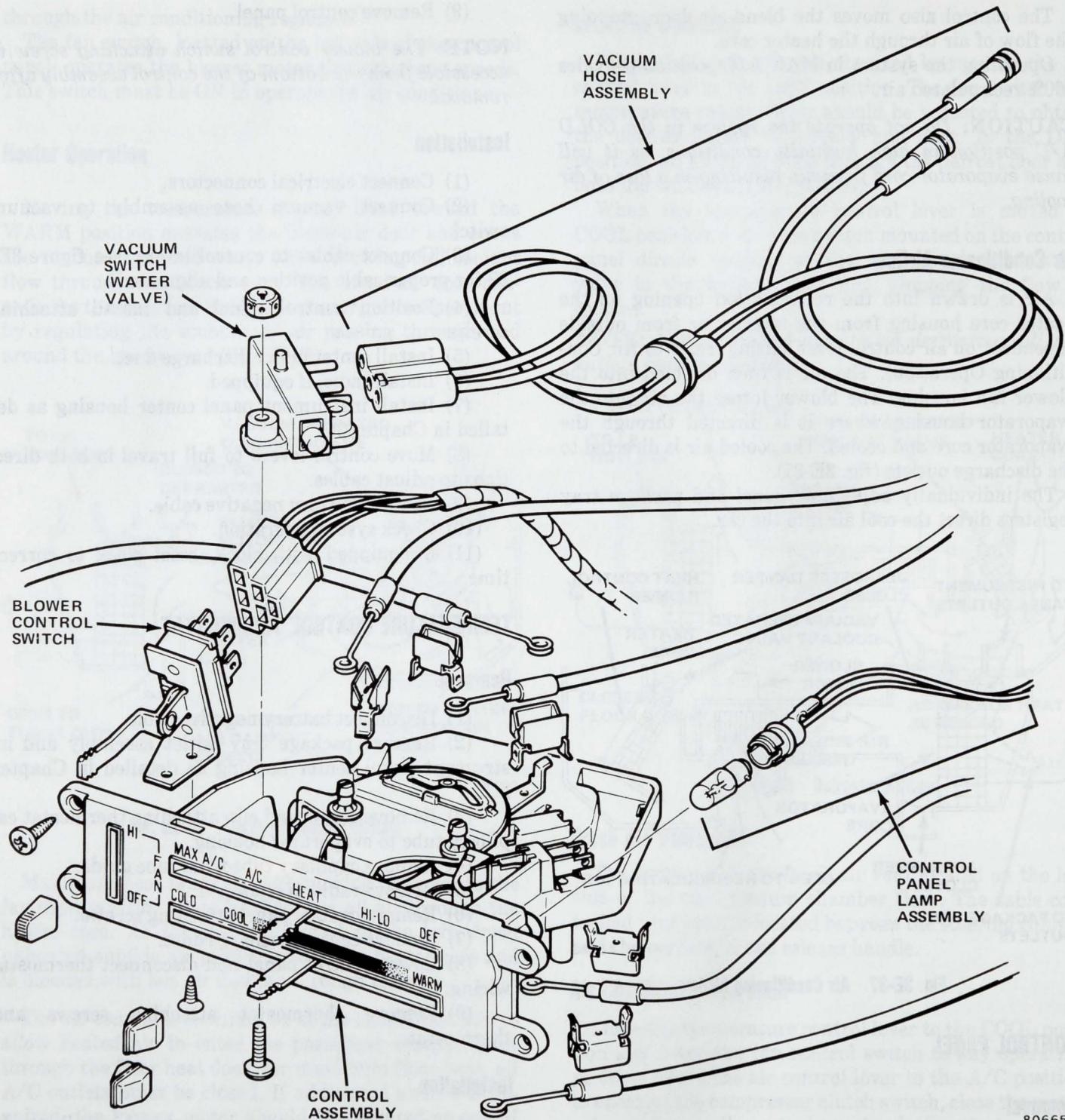


Fig. 3E-38 Control Panel Components

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CAUTION: Do not kink tubing.

- (8) Install instrument panel center panel and package tray outlet assembly as detailed in Chapter 3C.
- (9) Connect battery negative cable.
- (10) Check system operation.
- (11) If equipped with clock, reset clock to correct time.

TEMPERATURE CONTROL THERMOSTAT ADJUSTMENT

The temperature control lever operates the A/C temperature control thermostat. The cable from the control lever to the temperature control thermostat is equipped with a self-adjusting clip to simplify adjustment. The clip is located at the temperature control thermostat crank arm and is accessible on the front of the housing.

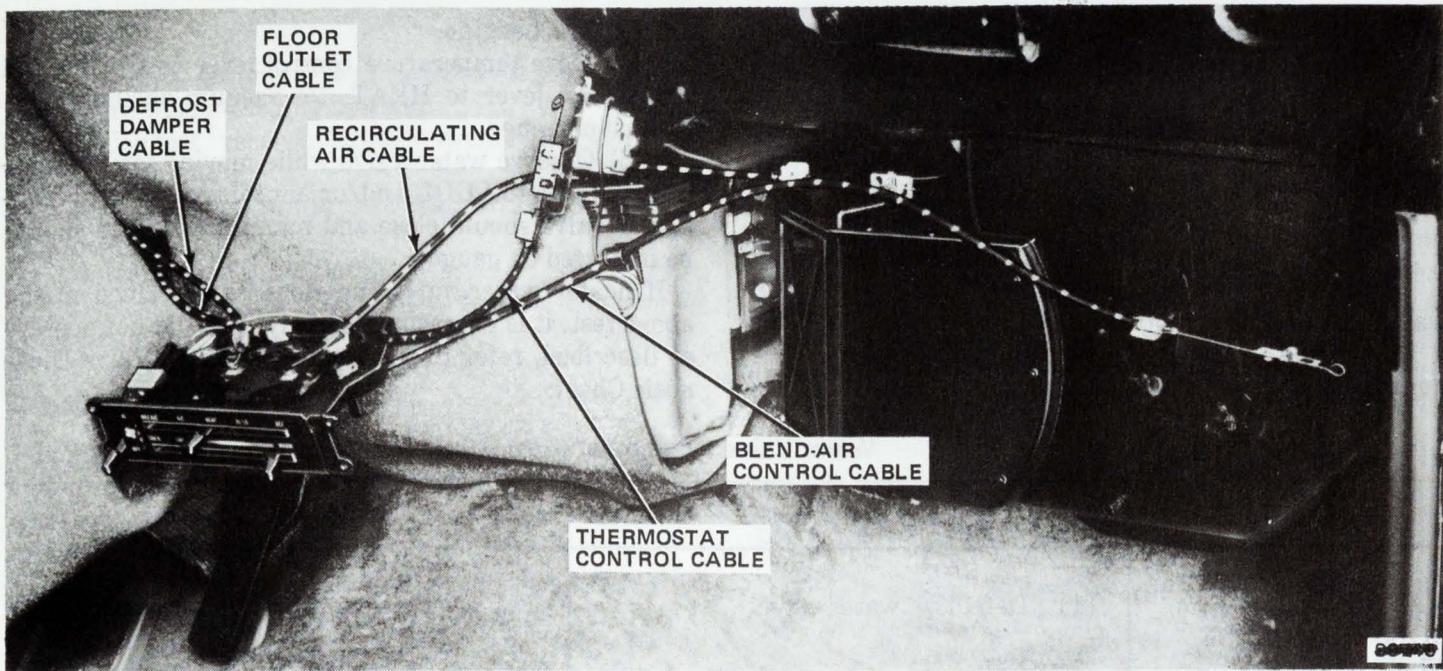


Fig. 3E-39 Control Cable Position and Alignment

(1) Hold temperature control lever in the mid-position.

(2) Slip self-adjusting clip, approximately 1/2-inch, toward end of control cable wire.

(3) Position temperature control thermostat crank arm in cold detent.

(4) Move temperature control lever from mid-position to COLD, causing control cable wire to slip through self-adjusting clip to proper adjustment.

(5) Check operation of temperature control thermostat to assure proper operation.

CABLE AND DOOR ADJUSTMENTS

Blend-Air Door Cable Adjustment

The temperature control lever operates the blend-air door in the heater housing. The cable from the control lever to the blend-air door is equipped with a self-adjusting clip to simplify adjustment. The clip is located at the blend-air door crank arm and is accessible on the front of the heater housing.

(1) Hold temperature control lever in WARM position and position blend-air door crank arm in extreme right hand end of travel (full heat position).

(2) Slip self-adjusting clip, approximately 1/2-inch, along control cable wire moving blend-air door crank arm toward control panel.

(3) Move temperature control lever from WARM to COLD, causing control cable wire to slip through self-adjusting clip to proper adjustment.

(4) Check operation of blend-air door to assure positive door closing at both WARM and COLD positions.

Defroster Door and Floor Heat Door Adjustments

The air control lever controls door operation for Defrost and Heat.

(1) Remove cable retaining clips from evaporator housing.

(2) Hold air control lever in MAX A/C position.

(3) Hold defroster door firmly closed and install cable retaining clip. Repeat procedure for floor heat door.

Outside/Recirculating Air Door Adjustment

The cable to the outside/recirculating air door is equipped with a self-adjusting clip to simplify adjustment. The clip is located at the door crank arm and is accessible on the top right hand surface of the heater/blower housing.

(1) Hold air control lever in MAX A/C position.

(2) Slip self-adjusting clip, approximately 1/2-inch, along control cable wire, moving door crank arm away from control panel.

(3) Move air control lever from MAX A/C to HEAT, causing control cable wire to slip through self-adjusting clip to proper adjustment.

HEATER WATER VALVE

The heater water valve regulates coolant flow to the heater core. It is vacuum operated by the temperature control lever and air control lever assemblies and requires vacuum to close or shut off flow to the heater core. Vacuum is applied to the valve when the temperature control lever is in the COOL position and/or the

air control lever is in the A/C position. The water valve is installed in the inlet heater hose which passes coolant to the core.

Water Valve Test

A vacuum gauge and tee are required for this test.

- (1) Disconnect turquoise vacuum hose from heater water valve vacuum motor.
- (2) Using a tee, connect vacuum gauge between vacuum hose and water valve vacuum motor nipple.

(3) Start engine.

(4) Move temperature control lever to WARM and air control lever to HEAT. No vacuum should be indicated on gauge.

(5) Observe water valve while moving temperature control lever to COOL and/or air control lever to A/C. Water valve should close and manifold vacuum should be indicated on gauge.

If heater water valve functions as described in the above test, it is operating properly. If it did not operate as described, refer to the following Water Valve Diagnosis Chart.

Water Valve Diagnosis

Condition	Possible Cause	Correction
WATER VALVE DOES NOT CLOSE WITH APPLIED VACUUM	(1) Defective water valve.	(1) Replace water valve.
NO VACUUM APPLIED TO WATER VALVE WHEN TEMPERATURE CONTROL LEVER IS AT EXTREME LEFT POSITION	(1) Vacuum hose off intake manifold. (2) Defective check valve. (3) Blocked or leaking vacuum hose from check valve to switch. (4) Vacuum hose not connected to switch. (5) Switch not adjusted properly or defective. (6) Blocked or leaking vacuum hose from switch to water valve.	(1) Correct as required. (2) Replace check valve. (3) Replace hose. (4) Correct as required. (5) Adjust or replace switch. (6) Replace hose.

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Removal

- (1) Drain approximately two quarts of coolant from radiator.
- (2) Disconnect turquoise vacuum line from heater water valve vacuum motor.
- (3) Disconnect water valve attaching clamps and slide clamps up heater hose away from valve.
- (4) Disconnect heater hoses from heater water valve.

Installation

- (1) Connect heater hoses to water valve with arrows on valve pointing toward heater core.
- (2) Slide attaching clamps back over valve nipples.
- (3) Connect turquoise vacuum line to water valve vacuum motor.

(4) Replace coolant.

(5) Check operation of water valve.

CONDENSER

Removal

- (1) Drain and remove radiator.
- (2) Discharge system.
- (3) Disconnect compressor-discharge-to-condenser coupling.
- (4) Disconnect receiver/drier-to-evaporator hose at disconnect coupling.

NOTE: Plug all open connections to prevent dirt and moisture from entering the components.

- (5) Remove attaching screws and remove condenser and receiver/drier assembly.

Installation

- (1) Install condenser and receiver/drier assembly and secure with attaching screws.
- (2) Connect receiver/drier-to-evaporator hose at disconnect coupling.
- (3) Connect compressor-discharge-to-condenser coupling.
- (4) Install and fill radiator.
- (5) Evacuate, leak test, and charge system as necessary.

Condenser Charged Unit Removal

It is possible to remove the condenser, receiver/drier, and hoses as a charged unit. This may be useful in cases where other service is necessary and the condenser needs to be moved to facilitate service.

- (1) Front-seat both service valves to isolate the compressor.
- (2) Bleed refrigerant charge from compressor slowly to prevent loss of compressor oil.
- (3) Disconnect discharge service valve and hose assembly from compressor. Plug all open connections.
- (4) Drain and remove radiator.
- (5) Disconnect receiver/drier outlet at the disconnect coupling.
- (6) Remove condenser, receiver/drier, and lines.

NOTE: After the system has been assembled, the compressor must be purged of air and both service valves back seated before operating.

Receiver Replacement

The condenser must be removed to gain access to the receiver/drier attaching screws.

- (1) Discharge system.
- (2) Remove condenser and receiver/drier as an assembly.
- (3) Disconnect receiver/drier inlet line.
- (4) Remove receiver/drier from condenser.

NOTE: Keep receiver/drier openings plugged at all times to prevent moisture from entering the receiver/drier.

- (5) Install replacement receiver/drier.
- (6) Connect receiver/drier inlet line.
- (7) Install condenser and receiver/drier as an assembly.
- (8) Evacuate, leak test, and charge system.

EXPANSION VALVE REPLACEMENT

- (1) Discharge system.
- (2) Remove package tray and steering column finish panel as detailed in Chapter 3C.
- (3) Remove insulation wrapped around expansion valve, thermal bulb, and fittings.

- (4) Mark bulb location on suction line.
- (5) Remove thermal bulb clamp and move bulb away from line.
- (6) Disconnect inlet and outlet connections and remove expansion valve.
- (7) Install replacement expansion valve. The replacement expansion valve thermal bulb must be attached on the suction line in the exact marked location. It is important that the bulb be clamped securely so that a clean, firm contact with the suction line exists. The insulation must be wrapped around the bulb and the line after bulb has been clamped to the line.
- (8) Install package tray and steering column finish panel as detailed in Chapter 3C.
- (9) Evacuate, leak test, and charge system.

EVAPORATOR HOUSING AND CORE ASSEMBLY

A date stamp, indicating when the evaporator unit was precharged, is affixed to the evaporator housing. The date is located on the front surface of the housing and can be seen only after the unit is removed.

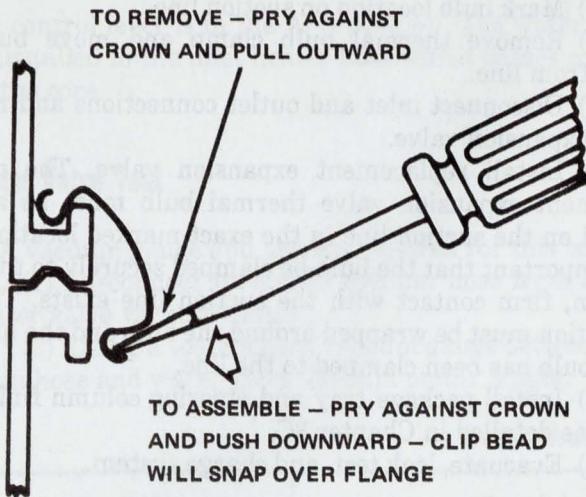
To make servicing easier, the evaporator housing assembly should be removed with the evaporator core in a discharged state. Plug all lines to prevent moisture from entering the system.

Removal

- (1) Disconnect battery negative cable.
- (2) Discharge system.
- (3) Remove package tray and duct assembly as detailed in Chapter 3C.
- (4) Remove instrument panel center housing, steering column finish panel, and ash receiver assembly as detailed in Chapter 3C.
- (5) Remove radio, if equipped.
- (6) Remove center air outlet and duct.
- (7) Remove insulation and disconnect inlet and discharge hoses.
- (8) Disconnect control cables and remove temperature sensing capillary tube.
- (9) Remove evaporator housing attaching screws and remove housing.
- (10) Remove evaporator housing cover (fig. 3E-40) and evaporator core attaching screws.
- (11) Remove evaporator core.

Installation

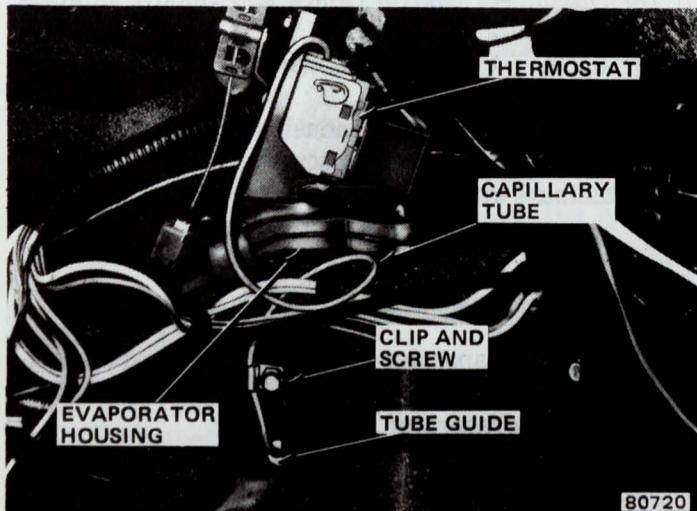
- (1) Install evaporator core into housing and install attaching screws.
- (2) Install evaporator housing cover.
- (3) Position evaporator assembly on dash panel and install evaporator housing attaching screws.
- (4) Connect inlet and discharge hoses and install insulation.



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Fig. 3E-40 Evaporator Housing Cover Retainer Clip

- (5) Carefully make a 90-degree bend (at colored tape) in capillary tube and insert end into tube guide mounted on front of evaporator core between evaporator core fins as shown in figure 3E-41.
- (6) Install clip and screw attaching capillary tube to evaporator housing.
- (7) Install and adjust control cables.
- (8) Install radio, if equipped.
- (9) Install center duct and air outlets.
- (10) Install instrument panel center housing, steering column finish panel and ash receiver as detailed in Chapter 3C.
- (11) Install package tray and duct assembly as detailed in Chapter 3C.
- (12) Connect battery negative cable.
- (13) If equipped with clock, reset clock to correct time.
- (14) Evacuate, leak test, and charge system.



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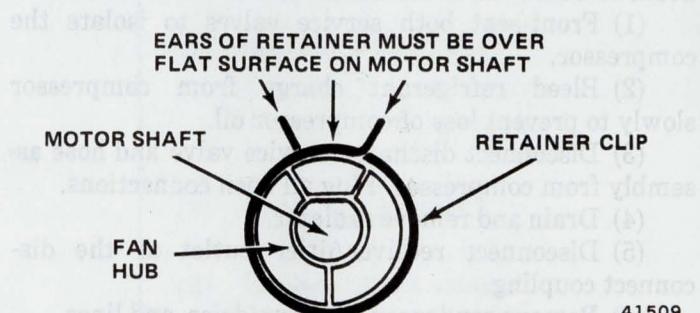
Fig. 3E-41 Thermostat and Capillary Tube Installation

BLOWER MOTOR AND FAN REPLACEMENT

The blower motor and fan are accessible and may be removed from the engine compartment.

- (1) Disconnect blower motor wires.
- (2) Remove three attaching nuts from motor mounting plate. Remove motor and fan assembly.
- (3) Remove fan from motor shaft for access to the motor attaching nuts.

NOTE: The retainer clip on the blower fan hub must be installed as shown in figure 3E-42. The ears of the spring clip retainer must be over the flat surface of the motor shaft. The edge of the clip must also be flush with the edge of the fan hub. For maximum output, there must be a clearance of 0.350 inch between the fan cage and the mounting plate.



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Fig. 3E-42 Blower Fan Retainer Placement

HEATER CORE AND BLOWER HOUSING

Removal

- (1) Disconnect battery negative cable.
- (2) Drain approximately two quarts of coolant from cooling system.
- (3) Disconnect heater hoses from heater core tubes.
- (4) Plug heater core tubes.
- (5) Disconnect blower motor wires and remove motor and fan assembly.
- (6) Remove housing attaching nut from stud.
- (7) Remove package tray and duct assembly as detailed in Chapter 3C.
- (8) Disconnect resistor wire.
- (9) Remove instrument panel center housing, air outlet, and duct as detailed in Chapter 3C.
- (10) Disconnect recirculating air door cable.
- (11) Remove right door scuff plate.
- (12) Remove right cowl trim panel.
- (13) Remove right side windshield pillar moulding, instrument panel upper attaching screws, and instrument panel-to-right A-pillar attaching screw.
- (14) Remove housing attaching screws.
- (15) Pull right side of instrument panel slightly rearward and remove heater core and blower housing assembly.
- (16) Heater core may be removed from housing.

Installation

(1) Install heater core, if removed from housing making sure all seals are in position around heater core.

(2) Pull right side of instrument panel rearward and place heater core and blower housing assembly in position.

(3) Install housing attaching screws.

(4) Install instrument panel-to-right A-pillar attaching screw, instrument panel upper attaching screws, and right windshield pillar moulding.

(5) Install right cowl trim panel.

(6) Install right door scuff plate.

(7) Connect recirculating air door cable and adjust.

(8) Install air outlet, duct, and instrument panel center housing as detailed in Chapter 3C.

(9) Connect resistor wire.

(10) Install package tray and duct assembly as detailed in Chapter 3C.

(11) In engine compartment, install housing attaching nut to stud.

(12) Install blower motor and fan assembly and connect blower motor wires.

(13) Remove plugs from heater core tubes and connect hoses to heater core tubes.

(14) Replace coolant previously drained.

(15) Connect battery negative cable.

(16) Check system operation.

(17) If equipped with clock, reset clock to correct time.

MATADOR AIR CONDITIONING

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GENERAL

The Air Conditioning System is a heater and air conditioner combined in an integral unit. The unit uses fresh air for heater operation and fresh or recirculated air for air conditioner operation.

The cooling unit is mounted on the dash panel and the cooled air is discharged from the instrument panel registers. The registers are adjustable to provide general or localized cooling. To cool the car interior efficiently, the windows and ventilators should be closed while operating the air conditioning. However, if the car has been parked for a period of time in the sun, open the windows to expel the accumulated heat prior to operating the air conditioning. The engine should be run well above idle speed for more efficient cooling under conditions where the system is operated with the car parked or standing.

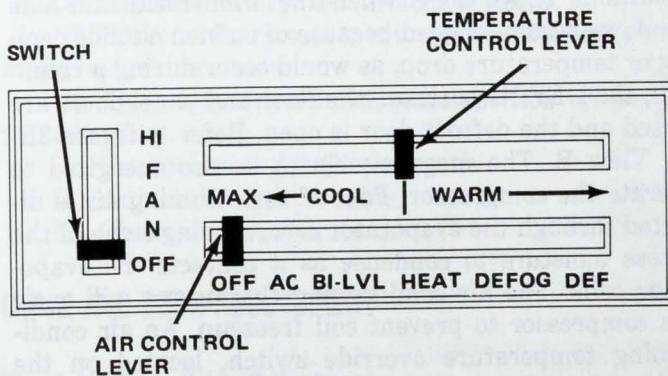
CONTROL OPERATION AND AIRFLOW

Control Panel

The temperature, fan, air, and defroster controls (fig.

3E-43) are located on the instrument panel to the right of the steering column.

The temperature control lever regulates the temperature inside the car. When moved to the left of center COOL, the air conditioning thermostat is actuated; when moved to the right of center WARM, the heater



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Fig. 3E-43 Control Panel

blend-air door is actuated. The temperature control lever also closes the vacuum-operated water valve when moved to the extreme left MAX position.

The lower lever controls the airflow for air conditioning, ventilation, heating, defogging, and defrosting. In the OFF and A/C positions it also closes the water valve.

The fan switch, located on the left side of the control panel, operates the blower motor through four speeds. This switch must be ON to operate the air conditioning.

Heater Operation

Moving the temperature control lever to the right WARM position operates the blend-air door. The blend-air door controls the temperature inside the passenger compartment by regulating the amount of air passing through or around the heater core. Maximum heat is obtained by moving the lever to the far right position thereby directing all air through the heater core (fig. 3E-44, View A).

The air control lever must be in the HEAT position to allow heated air to enter the passenger compartment through the floor heat door. Moving the lever to the BI-LVL position allows heated air to enter through the floor door, the panel registers, and defrost door. If additional airflow is required, the blower motor should be operated at one of the available speeds.

Defroster Operation

Windshield defrosting is obtained by moving the air control lever to the DEF position. The fan switch and temperature control lever should be adjusted to obtain the desired degree of airflow and heat. In the DEF position, all air is directed through the defrost door and onto the windshield (fig. 3E-44, View B). Defrosting of the side windows as well as the windshield may be accomplished by moving the lever to BI-LVL position and directing the panel registers toward the side windows. In the BI-LVL position, air comes out through the panel registers, floor door, and defrost door.

The DEFOG position is for use during high humidity conditions above 50°F when the windshield and side windows become fogged because of sudden outside cooling or temperature drop, as would occur during a rain.

In the DEFOG position, the floor and panel doors are closed and the defrost door is open. Refer to figure 3E-44, View B. The magnetic clutch is also energized to operate the compressor. Part of the incoming air is directed through the evaporator core, causing some of the excess moisture to condense as it contacts the evaporator coils. The air conditioning thermostat will cycle the compressor to prevent coil freezeup. An air conditioning temperature override switch, located on the right side in front of the radiator, on the radiator support bracket, will prevent compressor operation when outside temperature is below 50°F.

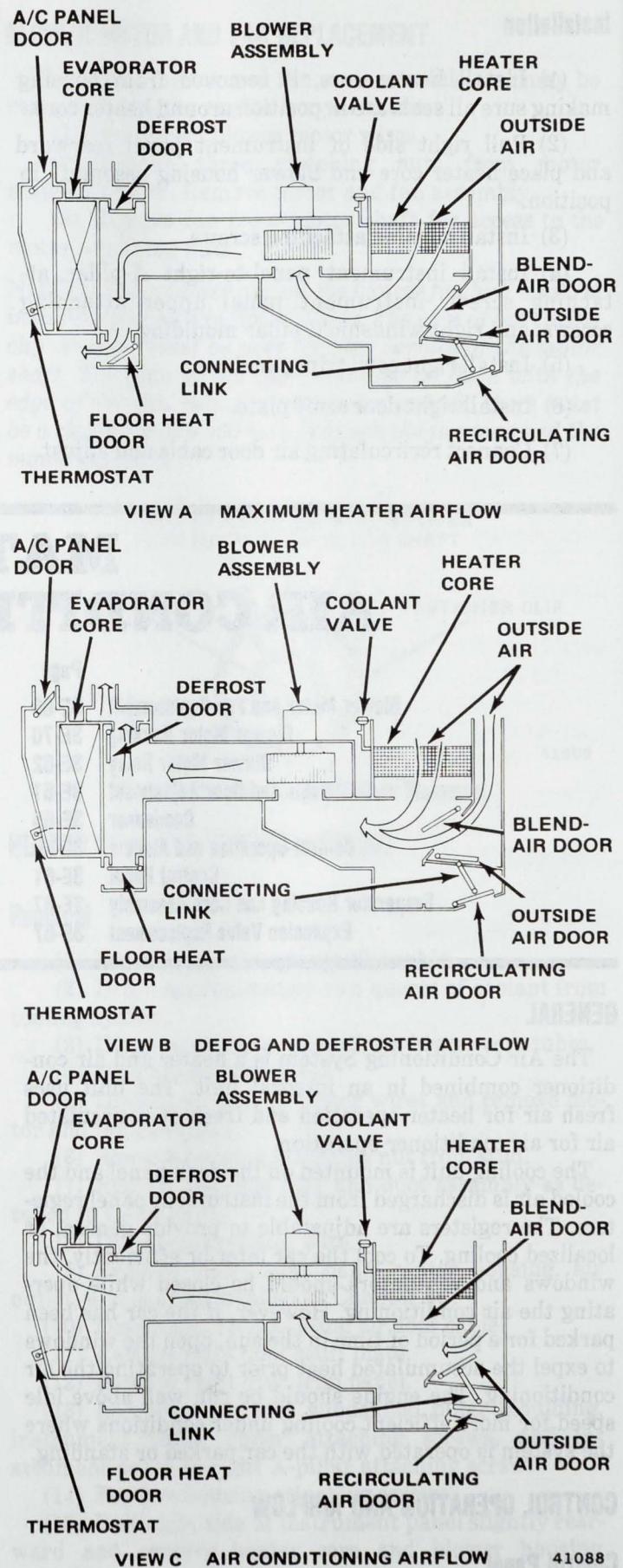


Fig. 3E-44 System Airflow

Fresh Air Ventilation

Fresh air ventilation is accomplished by moving the temperature control lever to the extreme left MAX position and moving the air control lever to the BI-LVL position. With the controls in these positions, fresh, unheated, outside air will be directed through the floor door, defroster door and panel registers. The airflow may be increased by operating the fan at the desired speed.

Air Conditioner Operation

Move the temperature control lever to the COOL position, and move the fan switch to any operating position. Move the air control lever to the A/C position to energize the compressor clutch and open the panel door and partially open the recirculating air door. This provides a blend of fresh outside air and recirculating inside air. In this position, the vacuum-operated water valve in the heater input line stops the flow of coolant through the heater core. This valve prevents any radiant heat from warming the incoming air and thereby reducing the efficiency of the air conditioning unit. When the temperature control lever is in the MAX position, the recirculating air door is fully open, shutting off all outside incoming air.

Air Conditioning Airflow

Air is drawn into the recirculation opening and the outside air door on the heater core housing. The air is then directed into the blower fan housing. The blower forces the air into the evaporator housing where it is directed through the evaporator core and cooled. The cooled air is directed to the discharge ducts (fig. 3E-44, View C), and then into the car through individually adjusted panel registers.

CONTROL PANEL

Removal

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster bezel attaching screws and radio attaching nuts.
- (3) Disconnect right-hand remote mirror control from instrument cluster bezel.
- (4) Carefully tilt bezel away from instrument panel, disconnect all electrical connections, and remove instrument cluster bezel.
- (5) Remove clock or clock opening cover.
- (6) Remove control panel attaching screws.
- (7) Disconnect cables from control levers.
- (8) Disconnect electrical connectors.
- (9) Disconnect vacuum hose connector from air outlet vacuum switch.
- (10) Disconnect vacuum hoses from water valve vacuum switch.

- (11) Remove control panel.

NOTE: Fan switch attaching screw is accessible from the rear of the control panel after removal.

Installation

- (1) Position control panel.
- (2) Connect vacuum hose connector to air outlet vacuum switch.
- (3) Connect vacuum hoses to water valve vacuum switch.
- (4) Connect control switch wires.
- (5) Connect cables to control levers.
- (6) Install control panel attaching screws.
- (7) Adjust cables.
- (8) Install clock or clock opening cover.
- (9) Position bezel in instrument panel.
- (10) Connect right-hand remote mirror to instrument cluster bezel.
- (11) Install instrument cluster bezel attaching screws and radio attaching nuts.
- (12) Connect battery negative cable.
- (13) Check system operation.
- (14) If equipped with clock, reset clock to correct time.

TEMPERATURE CONTROL THERMOSTAT

Removal

- (1) Disconnect wiring to thermostat.
- (2) Remove thermostat attaching screw.
- (3) Disconnect thermostat control cable.
- (4) Remove capillary tube attaching screw.
- (5) Pull insulation away from evaporator housing and remove thermostat.

Installation

- (1) Make a 90° bend in capillary tube 4-7/8 inches from tube end and insert end into evaporator housing between evaporator core fins.
- (2) Install capillary tube attaching screw.
- (3) Position thermostat, connect control cable and install attaching screw.
- (4) Place insulation in original position on evaporator housing.
- (5) Connect wiring to thermostat.
- (6) Adjust thermostat cable.
- (7) Check system operation.

CABLE AND DOOR ADJUSTMENT

Blend-Air Door Cable Adjustment

The heater blend-air door and air conditioning thermostat are controlled by the same control lever, but are

operated with separate cables. Both cable housings are equipped with a turnbuckle for cable adjustment.

(1) Remove lower instrument finish panel as detailed in Chapter 3C.

(2) Remove glove box door, fuse panel and glove box liner.

(3) Move temperature control lever to the center detent position.

(4) Rotate turnbuckle counterclockwise to raise blend-air door crank arm approximately 1/8 inch.

(5) With one hand on blend-air door crank arm, slowly rotate turnbuckle clockwise until crank arm is in full downward position. Rotate turnbuckle an additional 1/4-turn clockwise. Cable is now properly adjusted.

(6) Check temperature control lever operation for full travel of blend-air door.

(7) Install glove box liner, fuse panel and door.

(8) Install lower instrument finish panel as detailed in Chapter 3C.

Air Conditioning Thermostat Cable Adjustment

NOTE: It is necessary to remove the clock or clock opening cover to gain access to the air conditioning thermostat cable turnbuckle.

(1) Remove instrument cluster bezel as detailed in Chapter 3C.

(2) Remove clock or clock opening cover.

(3) Remove control panel attaching screws and pull control panel rearward.

(4) Position temperature control lever at extreme left position.

(5) Rotate turnbuckle clockwise to lower thermostat crank arm downward approximately 1/8 inch.

(6) With one hand on thermostat crank arm, rotate turnbuckle counterclockwise until crank arm is in the full upward position. Rotate turnbuckle an additional 1/4-turn counterclockwise.

(7) Check temperature control operation for full travel of thermostat.

NOTE: Temperature control lever may not travel to its stop in the center detent position when adjustment is complete. This is due to overtravel built into the thermostat.

(8) Position control panel and install attaching screws.

(9) Install clock or clock opening cover.

(10) Install instrument cluster bezel as detailed in Chapter 3C.

Vacuum Door Adjustment

The heater air, defroster, recirculating air, and A/C panel doors are all controlled by vacuum-operated motors.

The doors for the heater, defroster, and recirculating air are nonadjustable. The vacuum motors controlling these doors have overtravel designed into them to eliminate the need for adjustment.

The A/C panel door vacuum motor has two elongated slots on the mounting bracket to allow adjustment of the door. The door should be adjusted with NO vacuum being applied to the vacuum motor. To adjust the door, loosen the two attaching screws that mount the vacuum motor, hold the door closed, position motor to provide for 10-inch preload on actuating arm, and tighten the screws.

BLOWER MOTOR RELAY

The blower motor relay provides low resistance electrical feed to the blower motor for maximum speed operation. It is mounted on the right side of the dash panel under the hood. The blower motor relay is serviced as an assembly and cannot be repaired.

VACUUM CONTROLS

All vacuum motors that operate the various airflow doors are controlled by the vacuum control switch attached to the control panel. Refer to the Control System Mode Selection Chart for vacuum motor/airflow door position.

For routing and to assure correct connections, the vacuum hoses and motors are color coded (fig. 3E-45) and the vacuum control switch nipples are identified in figure 3E-46.

The vacuum hose connectors at each vacuum switch are molded to the hoses. If the hoses are mispositioned at the connector, the connector and hoses must be replaced.

Vacuum System Tests

Refer to the Control System Mode Selection Chart for vacuum motor/airflow door position. Also refer to figure 3E-45 for identification of vacuum hoses and figure 3E-46 for identification of vacuum control switch nipples and electrical terminals.

(1) In the event that a vacuum leak is suspected, start engine and check and record amount of vacuum available at intake manifold source.

(2) Install vacuum gauge to outlet nipple of vacuum storage tank and check and record available vacuum at that point.

(3) With gauge still installed, turn off engine and note if there is a vacuum drop. If vacuum drop occurs, check valve in vacuum storage tank is defective and tank must be replaced.

(4) If no vacuum drop occurs, install vacuum gauge at inlet to vacuum control switch, start engine, and note vacuum.

Control System Mode Selection

Mode Lever	A/C Clutch	Floor Door	Panel Door	Defrost Door	Outside Air*			Water Valve
					0%	Partial	100%	
Off	Off	Closed	Closed	Closed	●			Closed
A/C	On	Closed	Open	Closed	● **	●		Closed
Bi-Lvl	Off	Open	Open	Open			●	Open ***
Heat	Off	Open	Closed	Closed			●	Open ***
Defog	On	Closed	Closed	Open			●	Open ***
Def	Off	Closed	Closed	Open			●	Open ***

Temperature Lever — Operates the A/C thermostat to left of center and the heater temperature control door to right of center.

Fan Switch — Is independent of mode setting except must be energized in A/C and DEFOG modes to activate A/C compressor clutch.

* Outside Air Door linked to recirculating door (outside door open/recirculating door closed).

** Outside Air Door — Set for 100% recirculating at full cool setting of Temperature Lever.

*** Water Valve — Closed at full cool setting of Temperature Lever.

Vacuum Motor Operation:

Floor Door — Vacuum to Open

Recirculating Door — Vacuum to Open

Panel Door — Vacuum to Open

Defrost Door — Vacuum to Close

Water Valve — Vacuum to Close

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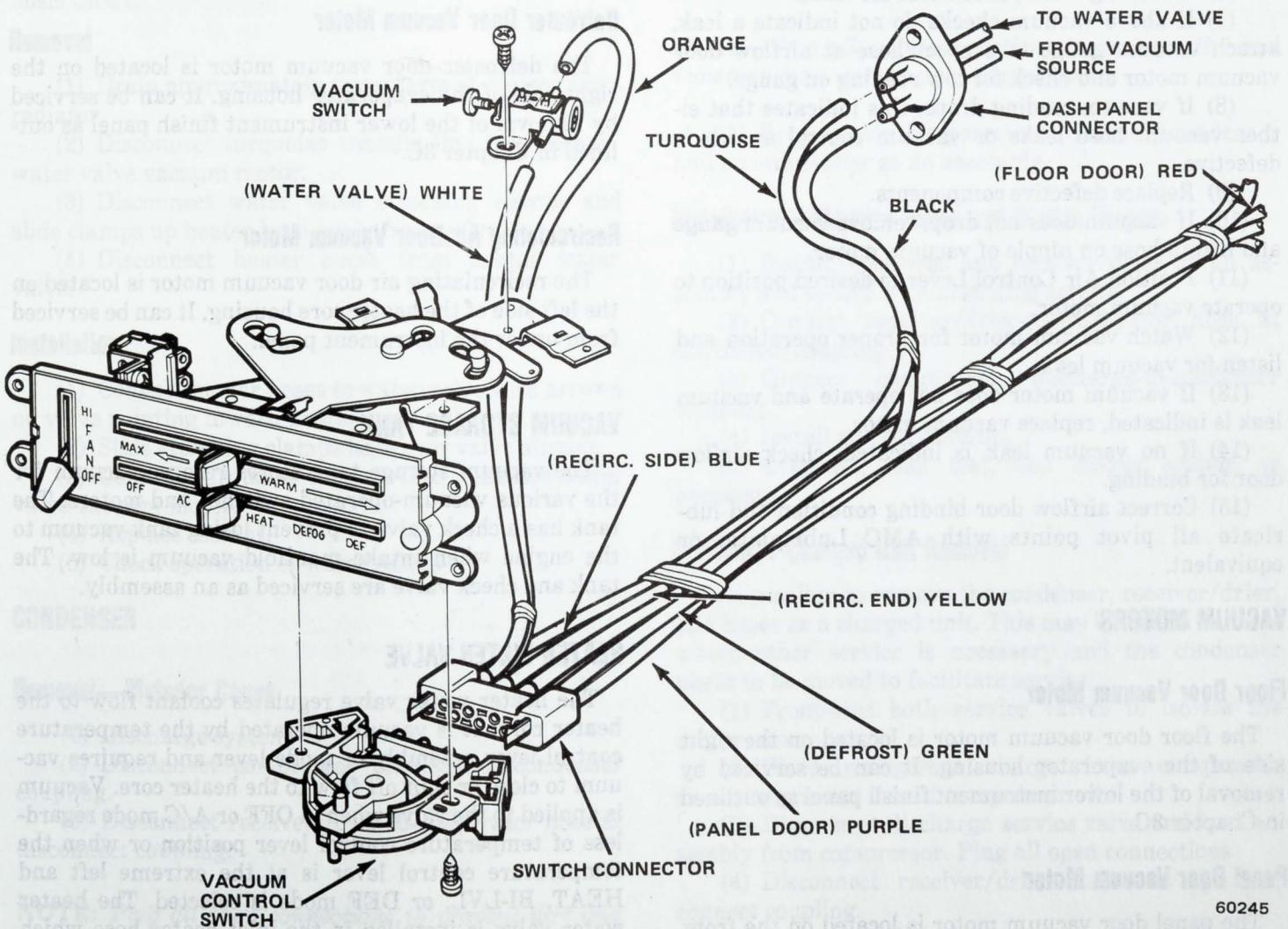


Fig. 3E-45 Identification of Vacuum Hoses

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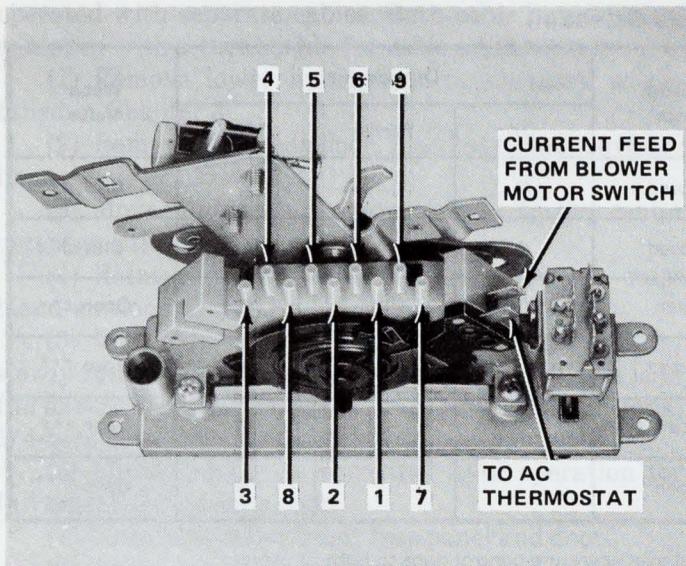


Fig. 3E-46 Identification of Vacuum Control Switch Nipples and Electrical Terminals

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- (5) Vacuum should be same at inlet as that noted at intake manifold and tank.
- (6) If reading is low, check hose for leaks.
- (7) If above vacuum checks do not indicate a leak, attach vacuum gauge to suspect hose at airflow door vacuum motor and check for low reading on gauge.
- (8) If vacuum reading drops, this indicates that either vacuum hose leaks or vacuum control switch is defective.
- (9) Replace defective components.
- (10) If vacuum does not drop, remove vacuum gauge and install hose on nipple of vacuum motor.
- (11) Position Air Control Lever in desired position to operate vacuum motor.
- (12) Watch vacuum motor for proper operation and listen for vacuum leak.
- (13) If vacuum motor does not operate and vacuum leak is indicated, replace vacuum motor.
- (14) If no vacuum leak is indicated, check airflow door for binding.
- (15) Correct airflow door binding condition and lubricate all pivot points with AMC Lubriplate, or equivalent.

VACUUM MOTORS

Floor Door Vacuum Motor

The floor door vacuum motor is located on the right side of the evaporator housing. It can be serviced by removal of the lower instrument finish panel as outlined in Chapter 3C.

Panel Door Vacuum Motor

The panel door vacuum motor is located on the front of the evaporator housing. It can be serviced by removal

Nipple	Vacuum Function	Hose Color
1	To Water Valve Vacuum Switch	Orange
2	Floor Door	Red
3	Panel Door	Purple
4	Defrost Door	Green
5	Recirculating Door End Port	Yellow
6	Recirculating Door Side Port	Blue
7	Water Valve	Turquoise
8	Vacuum Source	Black
9	From Water Valve Vacuum Switch	White

of the lower instrument finish panel as outlined in Chapter 3C.

Defroster Door Vacuum Motor

The defroster door vacuum motor is located on the right side of the evaporator housing. It can be serviced by removal of the lower instrument finish panel as outlined in Chapter 3C.

Recirculating Air Door Vacuum Motor

The recirculating air door vacuum motor is located on the left side of the heater core housing. It can be serviced from under the instrument panel.

VACUUM STORAGE TANK

The vacuum storage tank stores reserve vacuum for the various vacuum-operated switches and motors. The tank has a check valve to prevent losing tank vacuum to the engine when intake manifold vacuum is low. The tank and check valve are serviced as an assembly.

HEATER WATER VALVE

The heater water valve regulates coolant flow to the heater core. It is vacuum operated by the temperature control lever assembly or mode lever and requires vacuum to close or shut off flow to the heater core. Vacuum is applied to the valve when in OFF or A/C mode regardless of temperature control lever position or when the temperature control lever is at the extreme left and HEAT, BI-LVL, or DEF mode is selected. The heater water valve is installed in the inlet heater hose which passes coolant to the core.

Water Valve Test

A vacuum gauge and tee are required for this test.

(1) Disconnect turquoise vacuum hose from heater water valve vacuum motor.

(2) Using a tee, connect vacuum gauge between vacuum hose and water valve vacuum motor nipple.

(3) Start engine.

(4) Move temperature control lever to right and select HEAT mode. No vacuum should be indicated on gauge.

(5) Observe water valve while selecting OFF or A/C mode. Water valve should close and manifold vacuum should be indicated on gauge.

(6) Observe water valve while selecting HEAT mode. Water valve should open and no vacuum should be indicated.

(7) Observe water valve while moving temperature control lever to MAX cool position. Water valve should close and manifold vacuum should be indicated on gauge.

If heater water valve operated as described in the above test, it is operating properly. If it did not operate as described, refer to the following Water Valve Diagnosis Chart.

Removal

(1) Drain approximately two quarts of coolant from radiator.

(2) Disconnect turquoise vacuum line from heater water valve vacuum motor.

(3) Disconnect water valve attaching clamps and slide clamps up heater hose away from valve.

(4) Disconnect heater hoses from heater water valve.

Installation

(1) Connect heater hoses to water valve with arrows on valve pointing toward heater core.

(2) Slide attaching clamps back over valve nipples.

(3) Connect turquoise vacuum line to heater water valve vacuum motor.

(4) Replace coolant.

(5) Check operation of water valve.

CONDENSER

Removal—Matador Coupe

(1) Discharge system.

(2) Disconnect compressor discharge-to-condenser coupling.

(3) Disconnect receiver/drier-to-evaporator hose at disconnect coupling.

NOTE: Plug all open connections to prevent dirt and moisture from entering the components.

(4) Remove radiator attaching screws and move radiator toward engine.

(5) Remove condenser attaching screws and remove condenser and receiver/drier as an assembly.

Installation—Matador Coupe

(1) Install condenser and receiver/drier as an assembly and secure with attaching screws.

(2) Connect receiver/drier-to-evaporator hose at disconnect coupling.

(3) Connect compressor discharge-to-condenser coupling.

(4) Position radiator and install attaching screws.

(5) Evacuate, leak test, and charge system as necessary.

Removal—Matador Sedan and Station Wagon

(1) Drain and remove radiator.

(2) Discharge system.

(3) Disconnect compressor discharge-to-condenser coupling.

(4) Disconnect receiver/drier-to-evaporator hose at disconnect coupling.

NOTE: Plug all open connections to prevent dirt and moisture from entering the components.

(5) Remove attaching screws and remove condenser and receiver/drier as an assembly.

Installation—Matador Sedan and Station Wagon

(1) Install condenser and receiver/drier as an assembly and secure with attaching screws.

(2) Connect receiver/drier-to-evaporator hose at disconnect coupling.

(3) Connect compressor discharge-to-condenser coupling.

(4) Install and fill radiator.

(5) Evacuate, leak test, and charge system as necessary.

Condenser Charged Unit Removal

It is possible to remove the condenser, receiver/drier, and hoses as a charged unit. This may be useful in cases where other service is necessary and the condenser needs to be moved to facilitate service.

(1) Front-seat both service valves to isolate the compressor.

(2) Bleed refrigerant charge from compressor slowly to prevent loss of compressor oil.

(3) Disconnect discharge service valve and hose assembly from compressor. Plug all open connections.

(4) Disconnect receiver/drier outlet at the disconnect coupling.

(5) Remove condenser, receiver/drier, and lines.

Water Valve Diagnosis

Condition	Possible Cause	Correction
WATER VALVE DOES NOT CLOSE WITH APPLIED VACUUM	(1) Defective water valve	(1) Replace water valve
NO VACUUM APPLIED TO WATER VALVE WHEN OFF OR A/C MODE IS SELECTED (OPERATES CORRECTLY WITH TEMPERATURE CONTROL LEVER)	(1) Incorrect hose routing (2) Vacuum control switch is defective (3) Vacuum hose leaking	(1) Refer to figure 3E-45 (2) Replace vacuum control switch (3) Correct as required
NO VACUUM APPLIED TO WATER VALVE WHEN TEMPERATURE CONTROL LEVER IS AT MAXIMUM COOL (OPERATES CORRECTLY IN OFF OR A/C MODE)	(1) Temperature control lever is not depressing vacuum switch button (2) Vacuum switch is defective (3) Vacuum hose leaking	(1) Adjust vacuum switch (2) Replace vacuum switch (3) Correct as required
VACUUM APPLIED TO WATER VALVE WHEN HEAT, BI-LVL OR DEF MODE IS SELECTED (TEMPERATURE CONTROL LEVER IN WARM AREA)	(1) Incorrect hose routing (2) Vacuum control switch defective (3) Water valve vacuum switch plunger sticking in depressed position.	(1) Refer to figure 3E-45 (2) Replace vacuum control switch (3) Correct as required.
VACUUM LEAK AT VACUUM CONTROL SWITCH WHEN HEAT, BI-LVL OR DEF MODE IS SELECTED AND TEMPERATURE CONTROL LEVER IS AT EXTREME LEFT	(1) Defective vacuum control switch	(1) Replace vacuum control switch
NO VACUUM APPLIED TO THE WATER VALVE IN ANY MODE	(1) Blocked or leaking vacuum hose. (2) Defective check valve in vacuum storage tank.	(1) Correct as required. (2) Replace vacuum storage tank.

NOTE: After the system has been assembled, the compressor must be purged of air before operating.

Receiver/Drier Replacement

The condenser must be removed to gain access to the receiver/drier attaching screws.

- (1) Remove condenser.
- (2) Disconnect receiver/drier inlet line.
- (3) Remove receiver/drier from condenser.

NOTE: Keep receiver/drier openings plugged at all times to prevent moisture from entering the receiver/drier.

- (4) Install replacement receiver/drier.
- (5) Connect receiver/drier inlet line.
- (6) Install condenser.
- (7) Evacuate, leak test, and charge system.

EXPANSION VALVE REPLACEMENT

- (1) Discharge system.
- (2) Remove lower instrument finish panel as detailed in Chapter 3C.
- (3) Remove insulation wrapped around expansion valve, thermal bulb, and fittings.
- (4) Mark bulb location on suction line.
- (5) Remove thermal bulb clamp.
- (6) Disconnect inlet and outlet connections and remove expansion valve.
- (7) Install replacement expansion valve.

NOTE: The replacement expansion valve thermal bulb must be attached on the suction line in the exact marked location. It is important the bulb is securely clamped so that a clean, firm contact with the suction line exists.

(8) Wrap insulation around bulb and line after bulb has been clamped to line.

(9) Install lower instrument finish panel as detailed in Chapter 3C.

(10) Evacuate, leak test, and charge system.

EVAPORATOR HOUSING AND CORE ASSEMBLY

A date stamp, indicating when the evaporator unit was precharged, is affixed to the evaporator housing. The date is located on the right side of the housing below the vacuum motors.

To make servicing easier, the evaporator housing assembly should be removed with the evaporator core in a discharged state. Plug all lines to prevent moisture from entering the system.

Removal

- (1) Disconnect battery negative cable.
- (2) Discharge system.
- (3) Remove lower instrument finish panel as detailed in Chapter 3C.

- (4) Remove instrument cluster bezel, clock or clock opening cover as detailed in Chapter 3C.
- (5) Remove fuse panel, glove box door, and liner.
- (6) Remove radio, if equipped.
- (7) Remove screw attaching right discharge duct brace to heater-defroster damper housing.
- (8) Disconnect inlet and discharge hoses (fig. 3E-47).
- (9) Disconnect drain tube from housing.
- (10) Disconnect thermostat control cable and wires.
- (11) Remove recirculating air, defroster, and floor damper vacuum motors.
- (12) Remove evaporator housing-to-dash panel attaching screws, located in passenger compartment.
- (13) Disconnect duct work.
- (14) Remove evaporator housing and core by moving it downward and to the right.
- (15) Remove evaporator housing cover (fig. 3E-48).
- (16) Remove temperature sensing capillary tube.
- (17) Remove evaporator core.

Installation

(1) Install evaporator core and housing cover-to-evaporator housing.

(2) Install tip of temperature sensing capillary tube so that it extends 4-7/8 inches into the housing between the evaporator fins.

NOTE: A piece of red tape is placed around the capillary tube indicating the exact location to bend the tube.

- (3) Connect inlet and discharge hoses.
- (4) Install evaporator housing-to-heater-defroster damper housing attaching screws.
- (5) Wrap the expansion valve, and inlet and discharge hoses with insulation to prevent condensation from forming and dripping in the front compartment.
- (6) Connect duct work.
- (7) Install screw attaching right discharge duct brace to heater-defroster damper housing.
- (8) Install defroster, floor, and recirculating air door vacuum motors.
- (9) Connect all vacuum motor hoses (see figure 3E-45 for proper vacuum hose color and location).
- (10) Install thermostat cable and adjust.
- (11) Connect drain tube.
- (12) Install lower instrument finish panel, glove box liner, glove box door, and fuse panel.
- (13) Install radio, if equipped.
- (14) Connect negative battery cable.
- (15) Evacuate, leak test, and charge the system.
- (16) If equipped with clock, reset clock to correct time.

HEATER-DEFROSTER DAMPER HOUSING

The heater-defroster damper housing must be removed to replace the compressor inlet (suction hose).

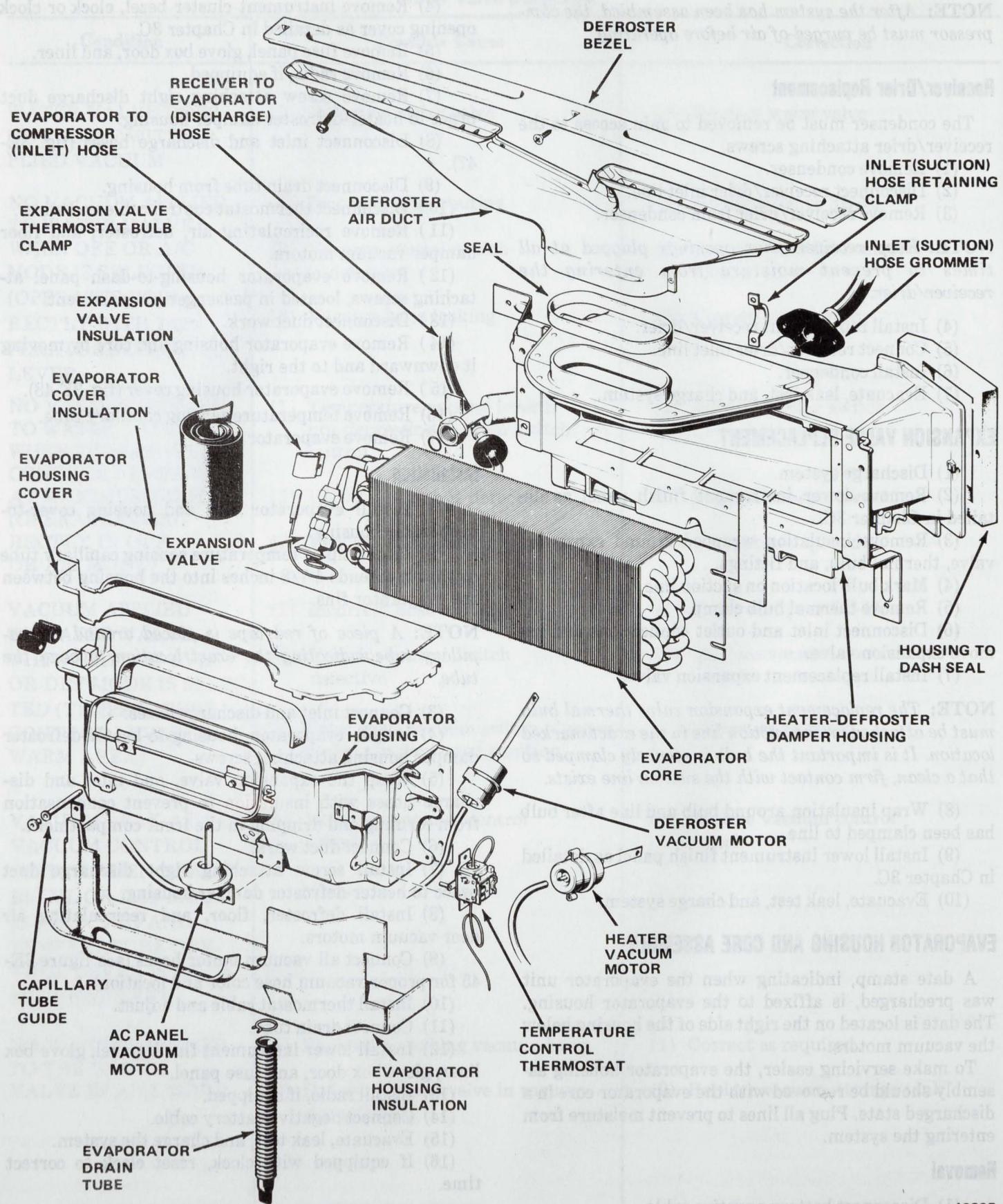


Fig. 3E-47 Evaporator Housing, Core, and Heater-Defroster Damper Housing Assembly

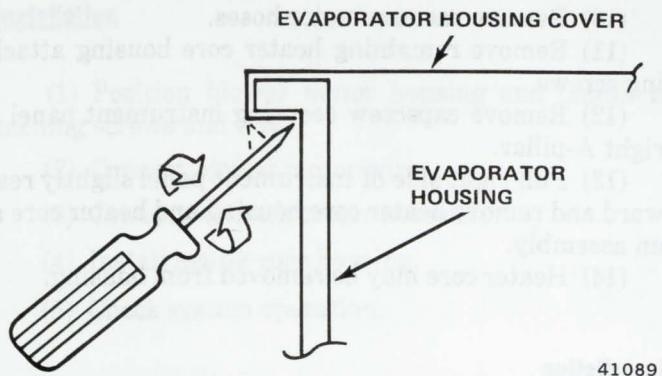


Fig. 3E-48 Evaporator Housing Cover Removal

Removal

- (1) Disconnect battery negative cable.
- (2) Remove heater core housing.
- (3) Remove evaporator housing and core assembly.
- (4) Disconnect inlet (suction) hose from compressor.
- (5) Remove inlet (suction) hose grommet attaching screws and slide grommet off suction hose.
- (6) Remove nuts from housing studs in engine compartment.
- (7) Remove housing-to-dash panel attaching screws in passenger compartment.
- (8) Remove housing by moving it downward and to the right. The inlet (suction) hose must be pulled through the dash panel at the same time.
- (9) The suction hose now may be removed from the housing by removing hose-to-housing retaining clamp.

Installation

- (1) Position inlet (suction) hose on housing and install retaining clamp, if removed.
- (2) Push inlet (suction) hose through dash panel and position housing on dash panel.
- (3) Install housing-to-dash panel attaching screws.
- (4) Install nuts on housing studs in engine compartment.
- (5) Slide grommet over inlet (suction) hose and install attaching screws.
- (6) Connect inlet (suction) hose to compressor.
- (7) Install evaporator housing and core assembly and connect inlet and discharge hoses.
- (8) Install heater core housing.
- (9) Connect battery negative cable.
- (10) Evacuate, leak test, and charge system.
- (11) If equipped with clock, reset clock to correct time.

BLOWER MOTOR AND FAN REPLACEMENT

The blower motor and fan (fig. 3E-49) are accessible and may be removed from the engine compartment.

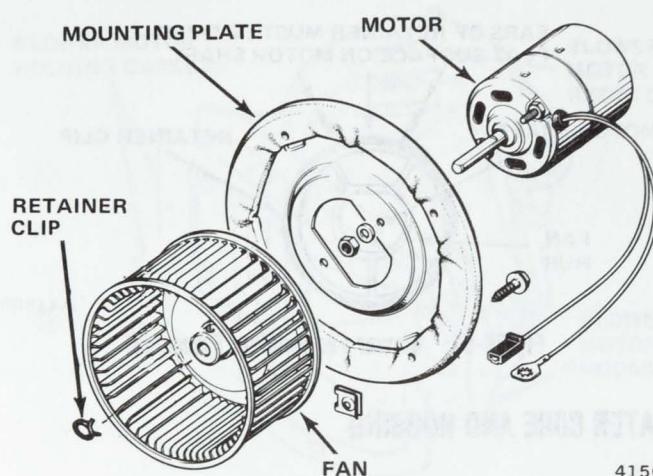


Fig. 3E-49 Blower Motor and Fan Assembly

- (1) Disconnect blower motor wires.
- (2) Remove four attaching screws from motor mounting plate.
- (3) Remove motor and fan assembly.

For maximum output, there must be a specific clearance between the fan and the mounting plate. Refer to figure 3E-50 for appropriate clearance. Refer to figure 3E-51 for placement of retainer clip.

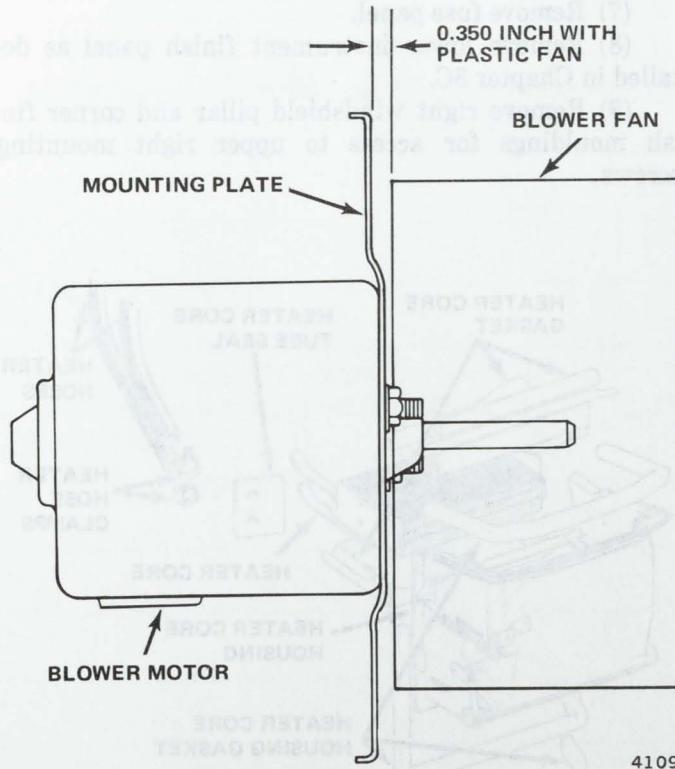
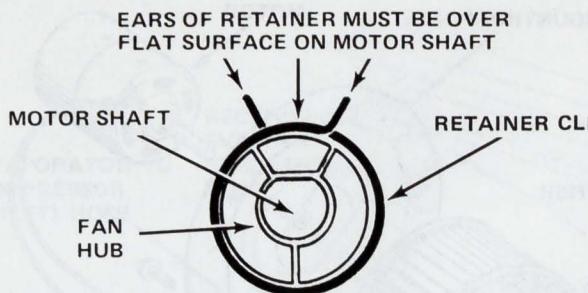


Fig. 3E-50 Mounting Plate Clearance



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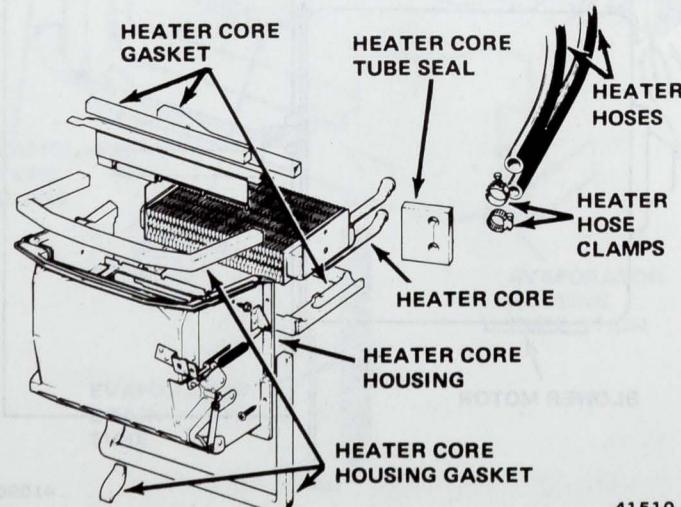
Fig. 3E-51 Blower Fan Retainer Placement

HEATER CORE AND HOUSING

Removal

The heater core housing is mounted on the dash panel in the passenger compartment. The heater core may be removed after the housing is removed (fig. 3E-52).

- (1) Disconnect battery negative cable.
- (2) Drain approximately 2 quarts of coolant from cooling system.
- (3) Disconnect heater hoses from heater core tubes in engine compartment.
- (4) Plug heater core tubes.
- (5) Remove glove box door and liner to gain access to upper heater core housing attaching screws.
- (6) Disconnect blend-air door cable at heater core housing.
- (7) Remove fuse panel.
- (8) Remove lower instrument finish panel as detailed in Chapter 3C.
- (9) Remove right windshield pillar and corner finish mouldings for access to upper right mounting screws.



41510

Fig. 3E-52 Heater Core and Housing

- (10) Remove vacuum motor hoses.
- (11) Remove remaining heater core housing attaching screws.
- (12) Remove capscrew securing instrument panel to right A-pillar.
- (13) Pull right side of instrument panel slightly rearward and remove heater core housing and heater core as an assembly.
- (14) Heater core may be removed from housing.

Installation

- (1) Install heater core in housing.
- (2) Pull right side of instrument panel slightly rearward and place heater core and housing assembly in position.
- (3) Install heater core housing attaching screws.
- (4) Install instrument panel-to-right A-pillar capscrew. Tighten capscrews to 90 inch-pounds (10.2 N m) torque.
- (5) Connect vacuum motor hoses.
- (6) Connect blend-air door cable and adjust.
- (7) Install glove box door, glove box liner and fuse panel.
- (8) Install right windshield pillar and corner finish mouldings.
- (9) Install lower instrument finish panel as detailed in Chapter 3C.
- (10) Remove plugs from the heater core tubes and connect hoses.
- (11) Replace coolant previously drained.
- (12) Connect battery negative cable.
- (13) Check system operation.
- (14) If equipped with clock, reset clock to correct time.

BLOWER MOTOR HOUSING

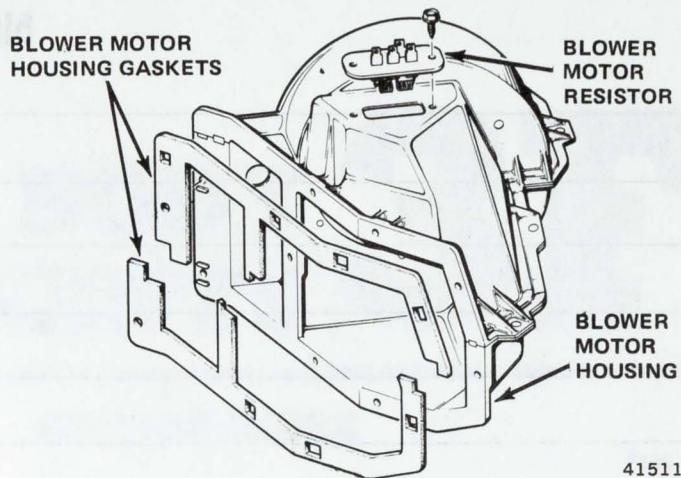
Removal

NOTE: To service the blower motor housing, the heater core housing first must be removed to gain access to the attaching screws.

- (1) Remove heater core housing (fig. 3E-52 and 3E-53).
- (2) Disconnect wire connector at resistor.
- (3) Disconnect blower motor wire.
- (4) Remove blower motor housing attaching screws in passenger compartment and nuts from stud in engine compartment. Remove housing.

Installation

- (1) Position blower motor housing and install attaching screws and nut.
- (2) Connect blower motor wire.
- (3) Connect wire connector at resistor.
- (4) Install heater core housing.
- (5) Check system operation.

**Fig. 3E-53 Blower Motor Housing****Body Repair Information**

All bodies are constructed of a single sheet of metal. The combination of body panels and subframes is unique in that the frame is welded into a single unit.

Sheet bodies are available in two types. One type is used in certain cars where the body is made of thin sheet metal. The other type is made of thicker sheet metal. Both types are repairable or reusable. When repairing sheet metal, it is less expensive to use a sheet body panel than to replace damaged or repaired parts can be taken from.

BODY COMPONENTS

3F

SECTION INDEX

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Bodies	3F-1	Fenders	3F-11
Bumpers	3F-15	Panels	3F-8

BODIES

BODY CONSTRUCTION

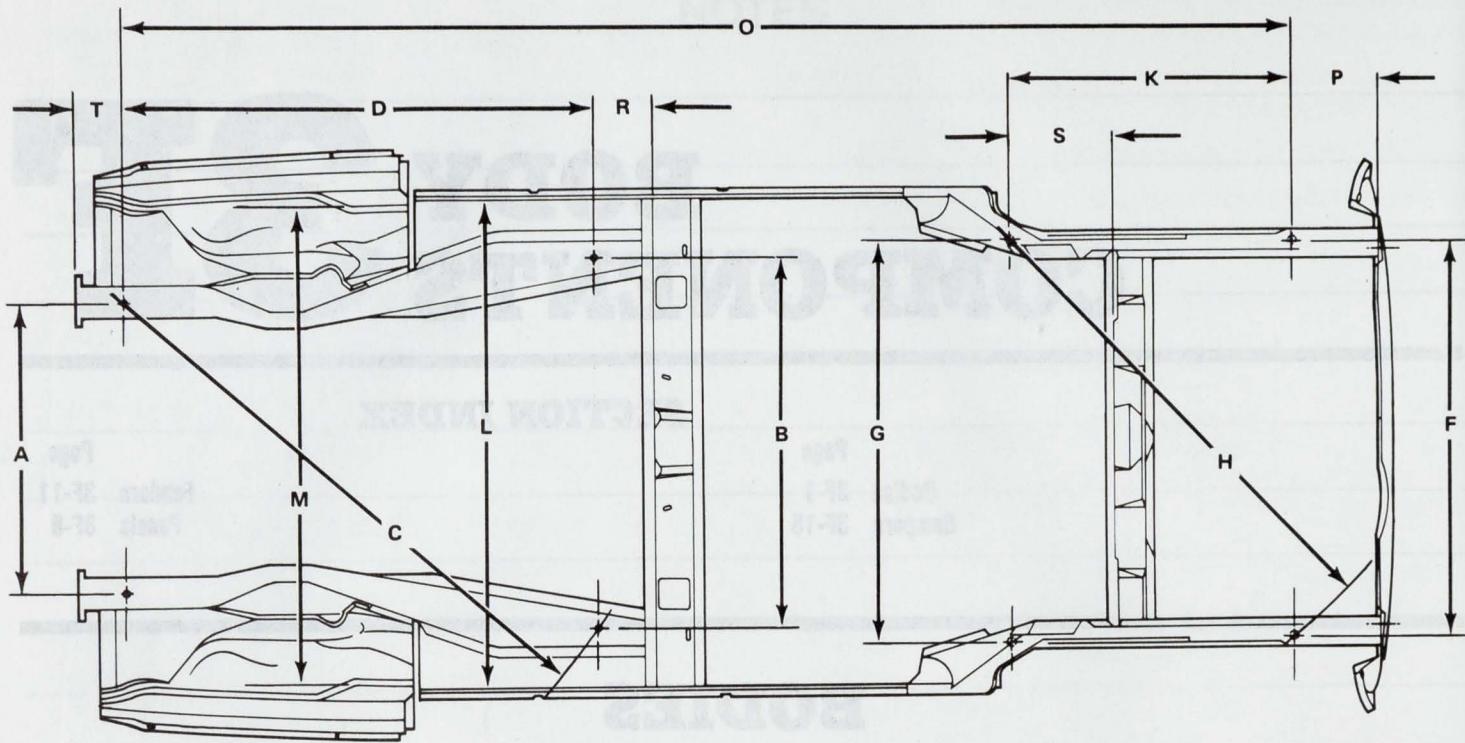
All bodies are of advanced unit construction, a combination of body panels and subassemblies (including the frame) welded into a single structural unit.

Shell bodies are available in all models as replacements in cases where the body is damaged beyond repair but the doors, trim material, hardware, and other parts are repairable or reusable. When this is the case, it is less expensive to use a shell body to which the undamaged or repaired parts can be transferred.

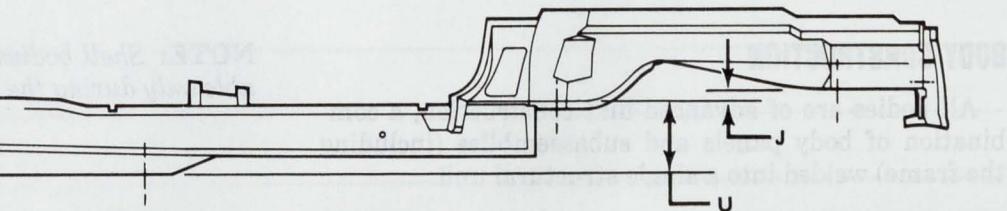
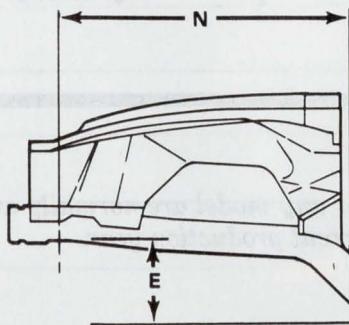
NOTE: Shell bodies for any model are normally available only during the current production year.

FRAME DIMENSIONS

In the event of collision damage, it is important that underbody alignment be checked and, if necessary, realigned to frame dimensions shown in figures 3F-1 through 3F-5.



NOTE: ALL GAGE HOLE DIMENSIONS ARE TO BOTTOM SURFACE OF STRUCTURE.



A. Front Sill Front Gage Hole (1.01 Dia.) Width	33.70
B. Front Sill Rear Gage Hole (1.00 Dia.) Width	44.00
C. Front Sill Front To Rear Gage Hole (Diagonal)	66.83
D. Front Sill Front To Rear Gage Hole (Length)	54.38
E. Front Sill Front To Rear Gage Hole (Height)	9.58
F. Rear Sill Rear Gage Hole (Width)	46.48
G. Rear Sill Front Gage Hole (Width)	47.14
H. Rear Sill Front To Rear Gage Hole (Diagonal)	57.56
J. Rear Sill Front To Rear Gage Hole (Height)	1.44
K. Rear Sill Front To Rear Gage Hole (Length)	33.50

L. Side Sill Front Width (Inside Surface)	57.47
M. Wheelhouse Gusset Innermost Rear Vertical Wall	54.08
N. Front Sill Front Gage Hole To Front of Side Sill	31.90
O. Front Sill Front Gage Hole To Rear Sill Rear Gage Hole	135.38
P. Rear Sill Rear Gage Hole To Rear Cross Sill Sedan	10.35
P. Rear Sill Rear Gage Hole To Rear Cross Sill Wagon	14.35
R. Front Sill Rear Gage Hole To Front Of Crossmember	5.34
S. Rear Sill Front Gage Hole To Rear Shock Forward Wall	12.44
T. Front Sill Front Gage Hole To Front Face of End Cap	8.44
U. Front Sill Rear Gage Hole To Rear Sill Front Gage Hole (Height)	7.53

Fig. 3F-1 Frame Dimensions—Pacer

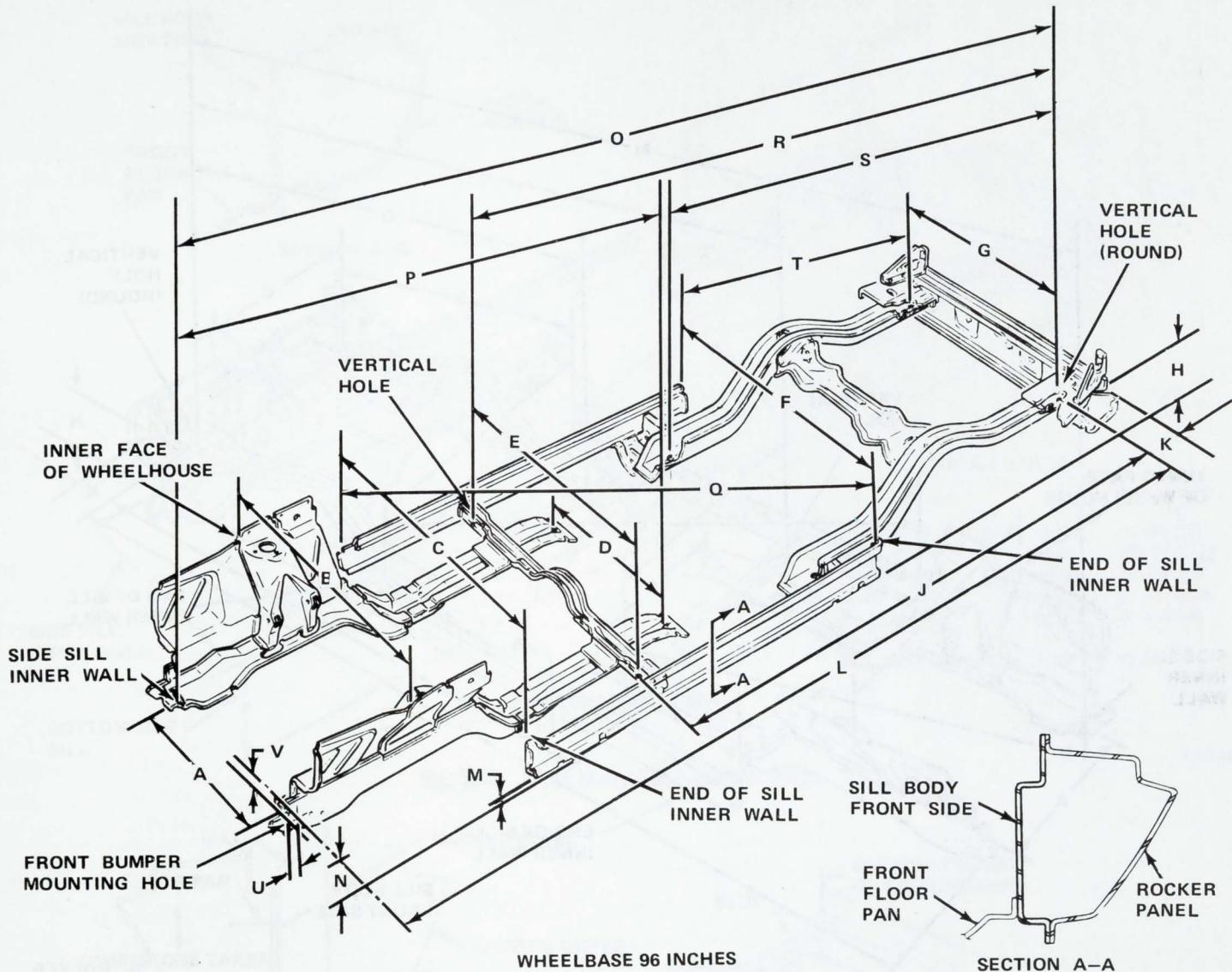


Fig. 3F-2 Frame Dimensions—Gremlin

41740

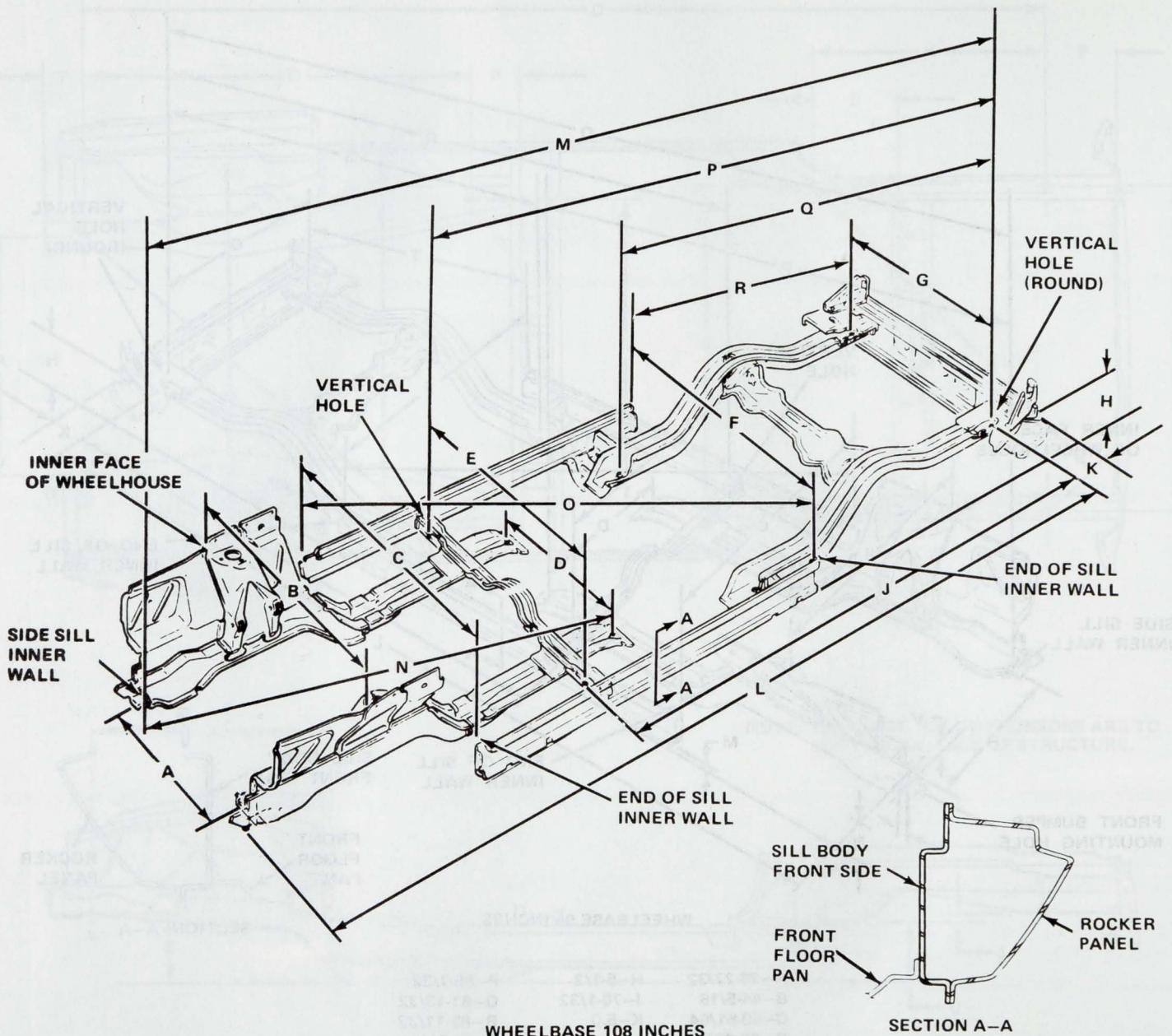


Fig. 3F-3 Frame Dimensions—Concord-AMX

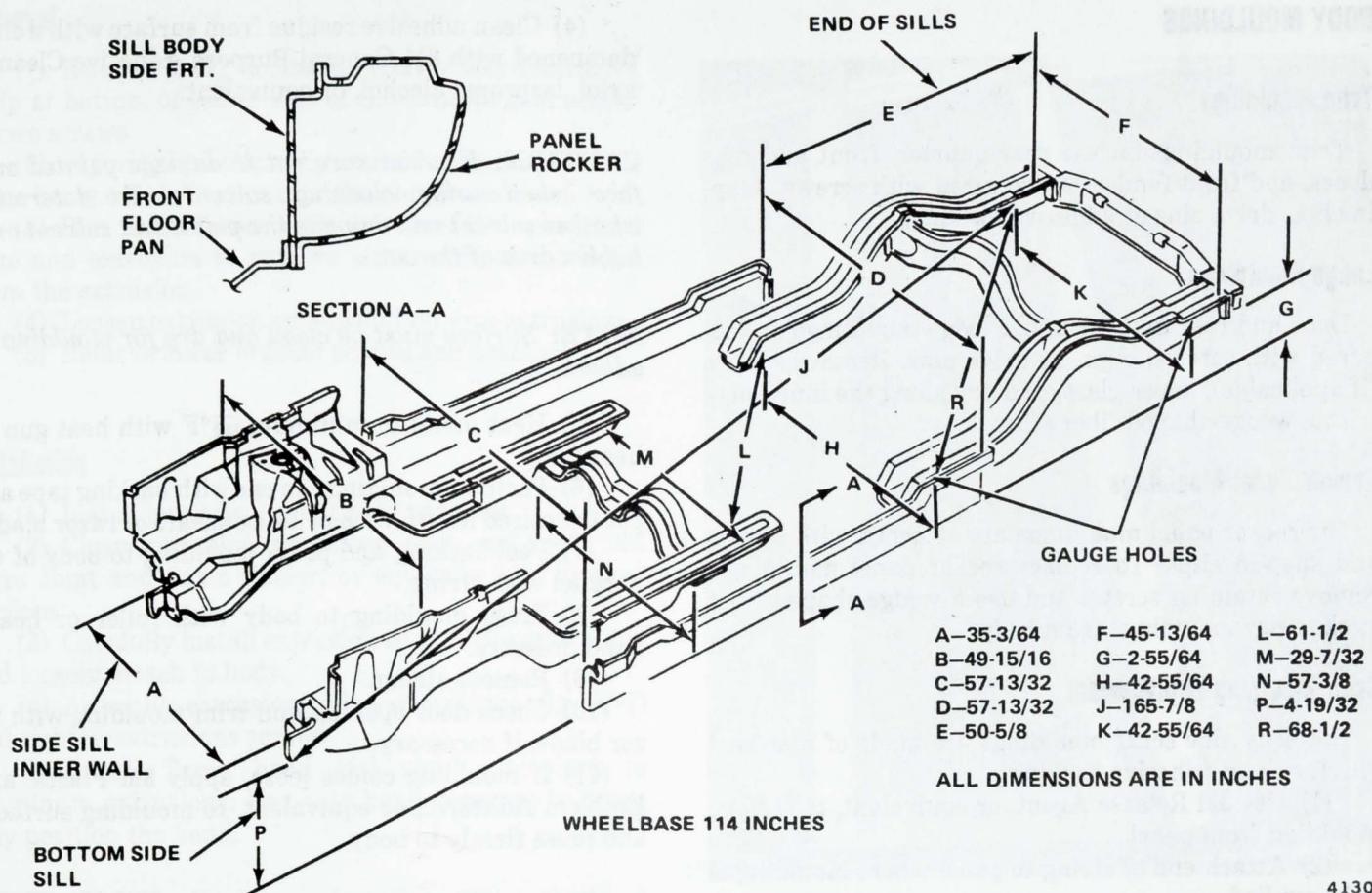


Fig. 3F-4 Frame Dimensions—Matador Coupe

41305

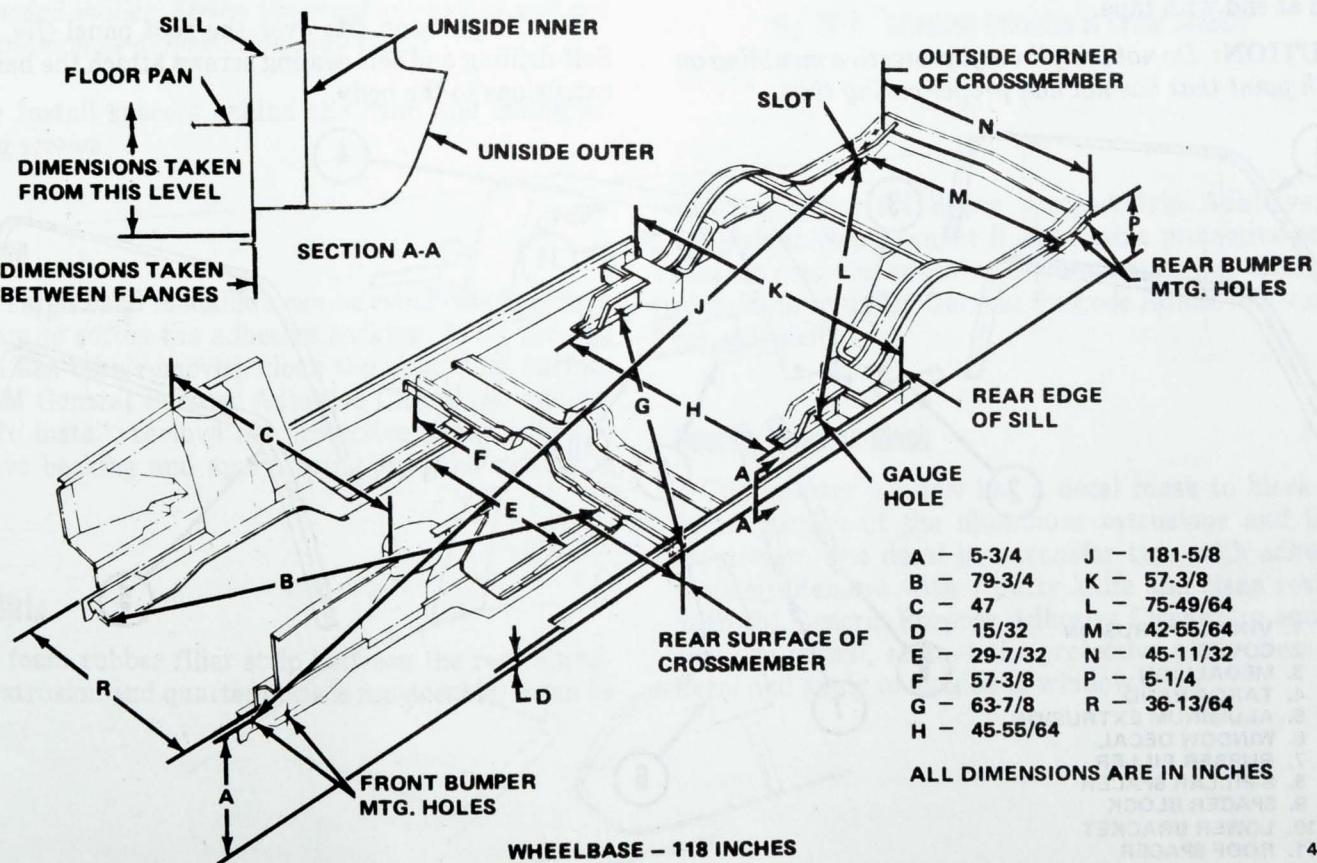


Fig. 3F-5 Frame Dimensions—Matador Sedan and Station Wagon

41742

BODY MOULDINGS**Trim Mouldings**

Trim mouldings on the rear quarter, front and rear doors, and front fenders are secured with screws, snap-in clips, drive pins or adhesive backing.

Ledge Mouldings

Door and rear quarter upper ledge mouldings are secured with screws, clips, or drive pins. Remove screws (if applicable), lower glass, and pry along the inner edge with a wedge-shaped fiber stick.

Rocker Panel Mouldings

The rocker panel mouldings are attached with screws and snap-in clips. To replace rocker panel mouldings, remove retaining screws and use a wedge-shaped fiber stick to pry mouldings from body.

Scuff Moulding Replacement

The body side scuff mouldings are made of extruded vinyl with an adhesive backing.

(1) Use 3M Release Agent, or equivalent, to remove moulding from panel.

(2) Attach end of string to panel where moulding is to be applied.

(3) Run string at desired level along panel and attach at end with tape.

CAUTION: Do not install vinyl protective moulding on fresh paint that has not had proper curing time.

(4) Clean adhesive residue from surface with a cloth dampened with 3M General Purpose Adhesive Cleaner, xylol, isopropyl alcohol, or equivalent.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine whether solvent will damage the paint, test solvent on a hidden area of the car.

NOTE: Surface must be clean and dry for moulding to adhere.

(5) Heat metal to minimum 68°F with heat gun or heat lamp.

(6) Position mouldings on car with backing tape and cut to desired length with pruning shears or razor blade.

(7) Peel backing and press moulding to body of car parallel with string.

(8) Press moulding to body with roller or heavy hand pressure.

(9) Remove string.

(10) Check door opening and trim moulding with razor blade, if necessary.

(11) If moulding comes loose, apply 3M Plastic and Emblem Adhesive, or equivalent, to moulding surfaces and press firmly to body.

TARGA BAND—AMX

The Targa band fits over the roof panel (fig. 3F-6). Self-drilling and self-sealing screws attach the band and extrusions to the body.

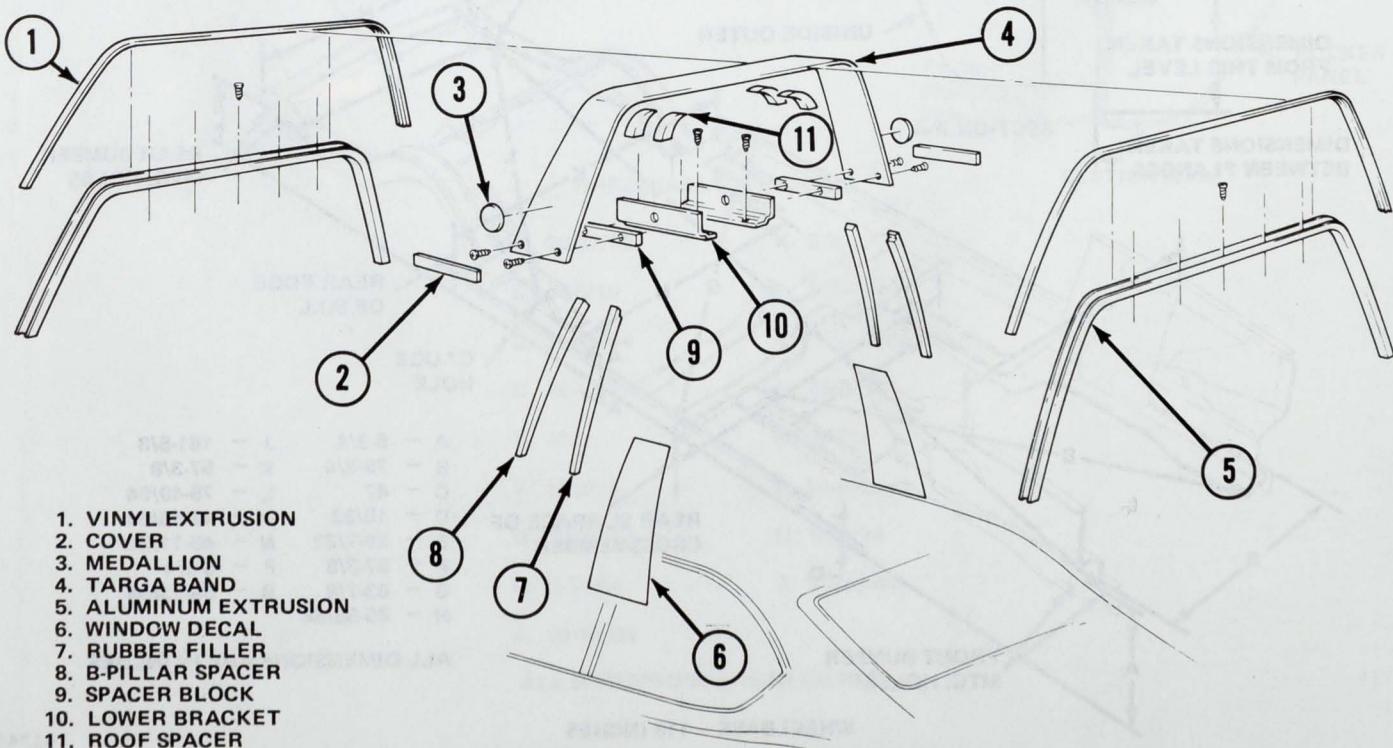


Fig. 3F-6 AMX Targa Band—Exploded View

Removal

(1) Remove lower horizontal (flat black) decorative strip at bottom of either side of the band to gain access to two screws.

(2) Pry vinyl plastic strips out of aluminum extrusions being careful not to mar the aluminum band.

(3) Run screwdriver blade between the open vinyl edge and extrusion to remove either side of the band from the extrusion.

(4) Loosen extrusion screws and remove extrusions.

(5) Remove lower bracket screws and brackets.

Installation

(1) Install lower bracket attaching screw.

(2) Clean extrusion mounting area and apply 3M Auto Joint and Seam Sealer, or equivalent, to mating surface.

(3) Carefully install extrusion so as not to mar paint and loosely attach to body.

(4) Assemble extrusion to lower brackets (fig. 3F-7) and tighten extrusions screws.

(5) Install Targa band and vinyl extrusions to aluminum extrusions. Use only hand pressure to properly position the band.

NOTE: If difficulty is experienced in fitting the band between the roof and quarter window area, use a raw-hide-headed mallet. Strike the vinyl extrusions and not the aluminum as deformation may result.

(6) Install spacers behind the band and install attaching screws.

Medallion

The Targa band medallion can be removed by using a heat gun to soften the adhesive backing. After the medallion has been removed, clean the aluminum surface with 3M General Purpose Adhesive Cleaner, or equivalent. To install, remove the protective paper from the adhesive backing and apply, being sure the surface is clean.

Filler Strip

The foam rubber filler strip between the rear aluminum extrusion and quarter glass is replaceable. It can be

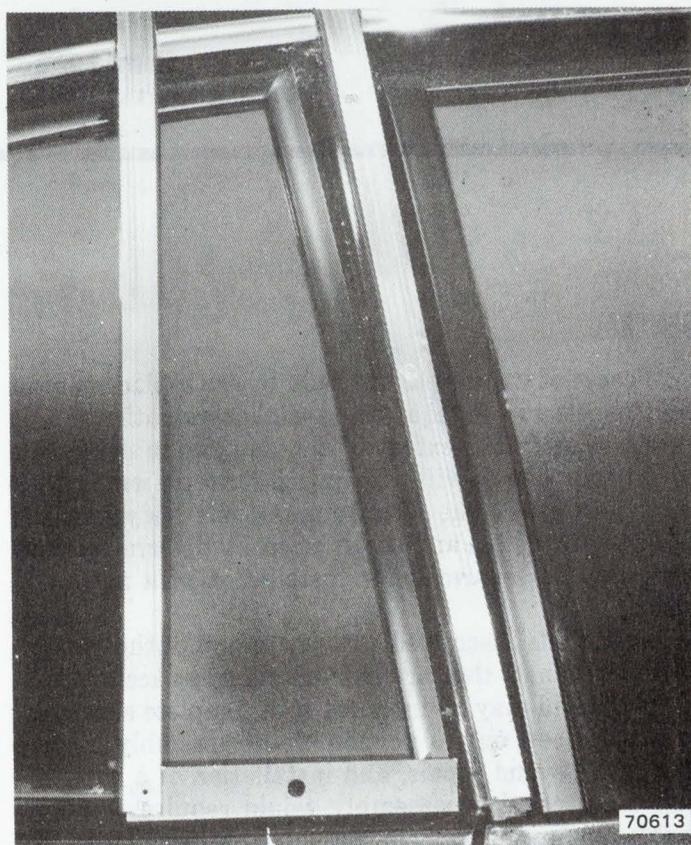


Fig. 3F-7 Attaching Extrusion to Lower Bracket

replaced using 3M Super Weatherstrip Adhesive, or equivalent. Replacement fillers have a protective paper coating over the adhesive. Before installing, clean the aluminum with 3M General Purpose Adhesive Cleaner, or equivalent.

Quarter Window Mask

The quarter window has a decal mask to block the inner portion of the aluminum extrusions and band from view. The decal is a transfer type with adhesive backing. Remove with a putty knife and clean residue with 3M General Purpose Adhesive Cleaner, or equivalent. To install, remove the protective paper from the decal and apply to outside of window glass.

PANELS

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GENERAL

In cases of damage to the body where replacement of body panels will be required, careful examination should be made as to the extent of the damage to determine which body panels will be required for replacement.

In most cases, the weld joints of one body panel to another are visible and it can be easily determined how they may be separated for installation of a new body panel.

The various assembled sections or any of the individual body panels that are available for replacement are complete and may be installed as a complete assembly. In some cases, only a portion of the assembly may be damaged beyond repair, and installation of a complete new body panel or assembly would require a considerable amount of unnecessary labor. In such cases, cut the damaged sections from the body at the location best suited for welding. Then cut the new body panel or assembly to the desired size and weld in place.

NOTE: Special assemblies and individual body panels are available to meet most requirements.

The uniside for all except Gremlin, Concord and AMX consists of two panels, an outer and an inner, with fixed door openings. The Gremlin, Concord and AMX have a multi-piece side structure.

RADIATOR GRILLE

Pacer

Removal

- (1) Remove mounting screws attaching grille to hood.
- (2) Remove mounting screws attaching grille to hinges and remove grille.

Installation

- (1) Position grille and install grille-to-hood mounting screws and tighten to 55 inch-pounds (6.2 Nm) torque.
- (2) Install grille-to-hinge mounting screws.

Gremlin-Concord-AMX

Removal

- (1) Disconnect parking lamp.
- (2) Remove grille attaching screws.
- (3) Remove grille.

Installation

- (1) Position grille and install attaching screws.
- (2) Connect parking lamp connectors.

Matador Coupe

Removal

- (1) Disconnect parking lamp connectors.
- (2) Remove nuts attaching grille to headlamp bracket.
- (3) Remove screws attaching grille to center support.
- (4) Remove upper and lower plastic push-in fasteners.
- (5) Remove grille by lowering ends to clear headlamp brackets.

Installation

- (1) Position grille by lowering at ends to clear headlight brackets.
- (2) Install nuts attaching grille to headlamp bracket.
- (3) Install screws attaching grille to center support.
- (4) Install upper and lower plastic push-in fasteners.
- (5) Connect parking lamp connectors.

Matador Sedan and Station Wagon

Removal

- (1) Remove headlamp doors.
- (2) Remove plastic push-in fasteners attaching grille to radiator support.

- (3) Remove grille attaching screws.
- (4) Disconnect parking lamp connectors.
- (5) Remove grille.

Installation

- (1) Position grille and connect parking lamp connectors.
- (2) Install attaching screws.
- (3) Install plastic push-in fasteners attaching grille to radiator support.
- (4) Install headlamp doors.

LOWER SPLASH PANEL

Pacer

Removal

- (1) Remove front bumper.
- (2) Remove headlamp lower doors.
- (3) Remove parking lamps.
- (4) Remove screws attaching fenders to splash panel (fig. 3F-8).
- (5) Remove screws attaching splash panel to radiator grille frame.
- (6) Remove screws attaching splash panel to center radiator support.
- (7) Remove panel.

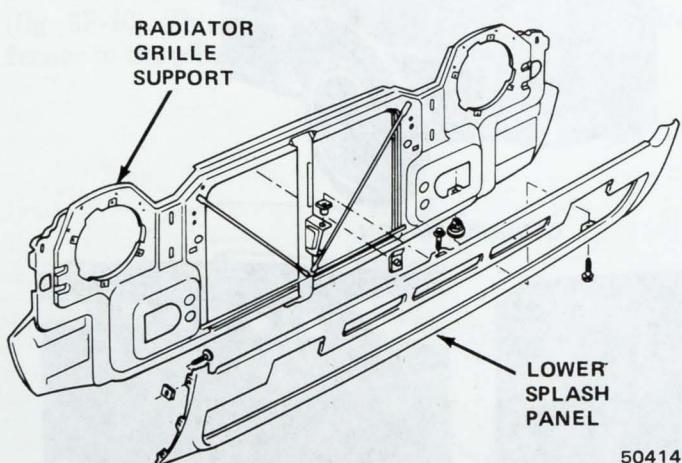


Fig. 3F-8 Lower Splash Panel—Pacer

Installation

- (1) Position splash panel and install screws attaching splash panel to radiator grille frame.
- (2) Install screws attaching splash panel to fenders.
- (3) Install parking lamps.
- (4) Install headlamp lower door.
- (5) Install front bumper.

Gremlin—Concord—AMX

The front lower splash panel is welded to front frame section and fastened to front fenders with screws. Replacement requires moving fender-to-splash panel attaching screws, cutting splash panel from front frame section, welding in replacement panel, and installing fender-to-splash panel attaching screws.

Matador Coupe

Removal

- (1) Remove front bumper.
- (2) Remove radiator grille.
- (3) Remove screws attaching fender to splash panel.
- (4) Remove screws attaching splash panel to radiator grille frame.
- (5) Remove screws attaching panel to center radiator suport.
- (6) Remove panel.

Installation

- (1) Position splash panel on car and install screws attaching panel to center radiator support.
- (2) Install screws attaching splash panel to radiator grille frame.
- (3) Install screws attaching splash panel to fender.
- (4) Install radiator grille.
- (5) Install front bumper.

REAR QUARTER PANEL

Rear quarter panels are welded to the body as indicated by the dotted lines shown in figure 3F-9. Whenever a rear quarter panel is replaced, apply a suitable rust preventive to all mating surfaces prior to welding. Seal all weld joints with AMC Metal Joint Sealer, or equivalent.



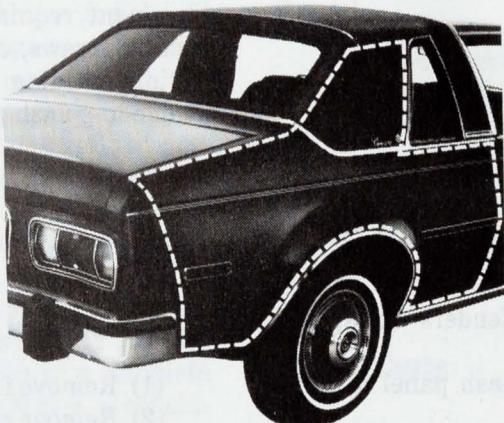
PACER HATCHBACK



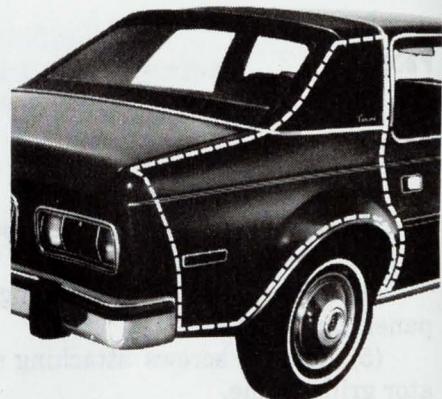
PACER WAGON



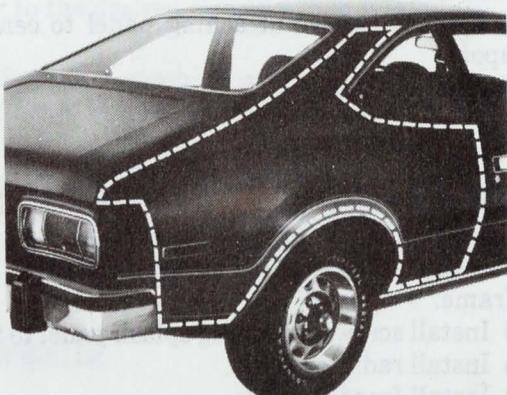
GREMLIN



CONCORD 2-DR. SEDAN



CONCORD 4-DR. SEDAN



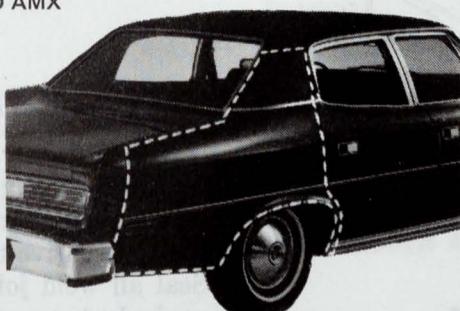
CONCORD HATCHBACK AND AMX



CONCORD WAGON



MATADOR COUPE



MATADOR SEDAN



MATADOR STATION WAGON

Fig. 3F-9 Rear Quarter Panels

FENDERS

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PACER

Removal

(1) Apply several layers of masking tape over edge of bumper end to prevent scratching fender paint.

(2) Remove radio antenna from fender, if equipped.

 (a) Remove speaker grille from top of instrument panel and disconnect antenna from radio.

 (b) Remove lower right cowl trim panel. Remove metal crimp band that retains rubber weathershield to antenna wire.

 (c) Attach string to antenna wire and remove antenna assembly from fender.

NOTE: String will be used to guide antenna wire into position on installation.

(3) Mask front edge of door.

(4) Remove wheel lip moulding, if equipped.

(5) Turn wheels to side where fender is to be removed.

(6) Remove splash guard mounting screws (usually covered with undercoating) and remove splash guard (fig. 3F-10). This will expose screws which attach the fender to the pillar and rocker panel.

(7) Remove fender-to-pillar and fender-to-rocker panel screws.

(8) Remove headlamp lower door, parking lamp, and disconnect lamp wires.

(9) Remove screws attaching lower reveal moulding.

(10) Remove lower splash panel-to-fender attaching screws.

(11) Remove bracket-to-fender screw.

(12) Remove fender-to-wheelhouse screws.

(13) Tilt top of fender out at front and lift at rear to remove fender.

Installation

(1) Refer to Chapter 3B for finishing underside of fender.

(2) Tilt rear of fender up and position fender in place.

(3) Align front of fender to lower splash panel and install attaching screws.

(4) Install fender-to-wheelhouse screws.

(5) Install fender bracket and secure with screws.

(6) Install and tighten fender-to-pillar and fender-to-rocker panel screws (refer to Torque Specifications).

(7) Install plastic splash guard.

(8) Brush or spray undercoating onto entire splash guard-to-fender contact area to provide complete seal.

(9) Install parking lamp.

(10) Connect lamp wires.

(11) Install headlamp lower door.

(12) Install screws attaching lower reveal moulding.

(13) Install radio antenna, if equipped.

 (a) Using string, pull antenna wire through and connect to radio.

 (b) Install speaker grille to top of instrument panel.

 (c) Install rubber weathershield into pillar opening. Install lower right cowl trim panel.

 (d) Install radio antenna assembly on fender.

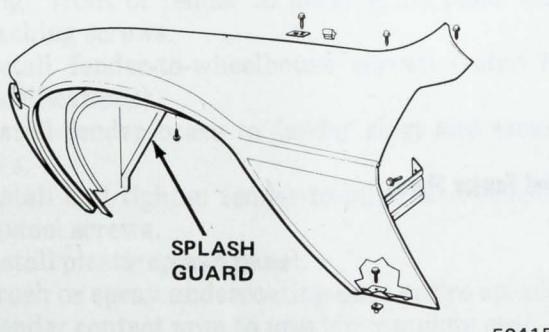


Fig. 3F-10 Front Fender Components—Pacer

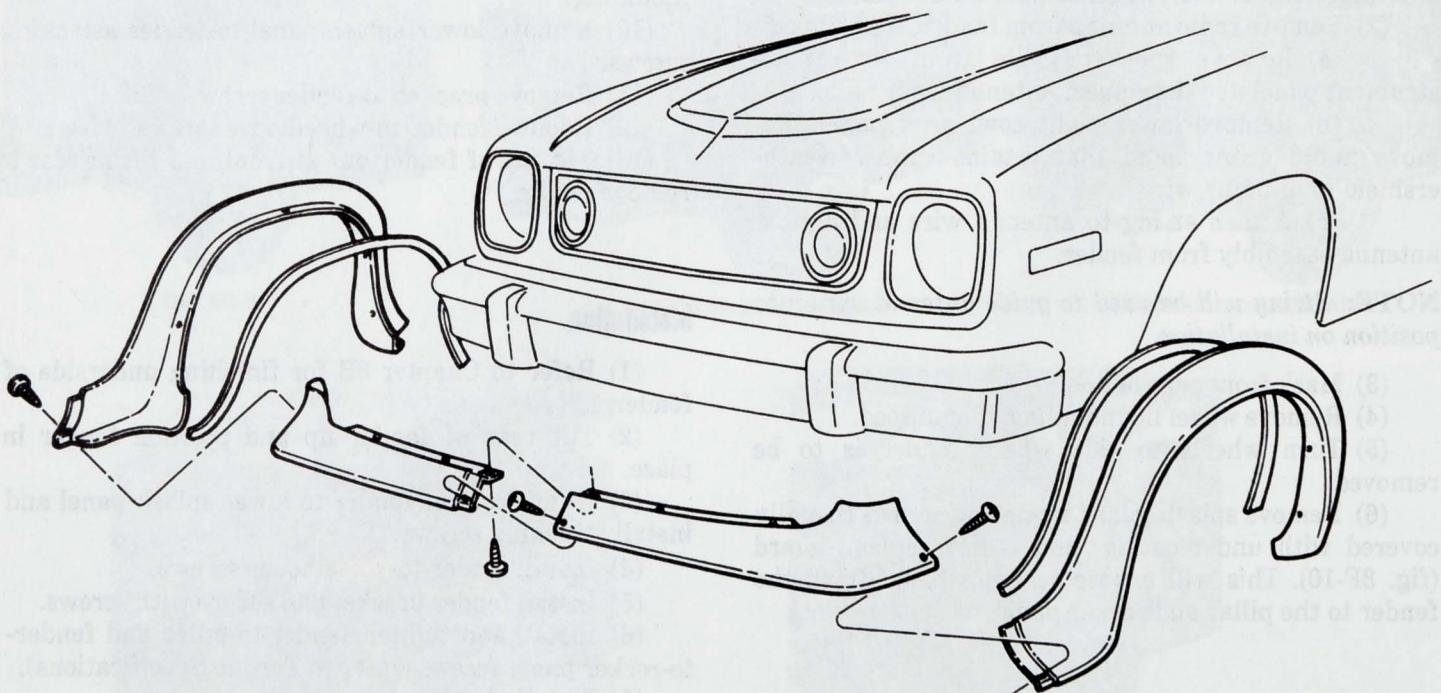
FRONT SPOILER AND FENDER FLARES—AMX

The front spoiler and fender flares are constructed of resilient plastic and return to their original shape if deformed. If gouged or torn, they must be replaced. Due to the chemical properties of the material, it is not possible to repair it.

With the exception of black color cars, spoilers and fender flares do not have a paint finish. Refer to the

Paint and Metal Repair section in this manual for information on painting replacement parts for black cars.

Spoilers and flares are fastened to the car body with self-drilling sheet metal screws (fig. 3F-11). The spoiler pieces are connected and fastened to the flares with screws and nuts. Flares are sealed to the body surface. If the seal is broken, it can be resealed with 3M Auto Attachment Tape, or equivalent.



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Fig. 3F-11 Front Spoiler and Fender Flares

GREMLIN—CONCORD—AMX**Removal**

(1) Apply several layers of masking tape over edge of bumper end to prevent scratching fender paint.

(2) Remove windshield lower reveal moulding with Reveal Moulding Clip Remover Tool J-215494-1, -10, and -11.

(3) Turn wheels to side where fender is to be removed.

(4) Remove front spoiler and fender flare on AMX models.

(5) Remove splash panel mounting screws (usually covered with uncoating) and remove splash panel. This will expose screws which attach the fender to the pillar and rocker panel.

(6) Remove fender-to-pillar and fender-to-rocker panel screws.

(7) Remove headlamp door, headlamp bucket, and disconnect side marker lamp wires.

(8) Disconnect headlamp wiring connector and pull wiring through headlamp mounting panel.

(9) Remove headlamp mounting panel-to-radiator support attaching screws.

(10) Remove grille-to-headlamp mounting panel plastic fastener.

(11) Remove brace-to-fender skirt screw and fender-to-lower grille panel screws.

(12) Remove fender-to-wheelhouse screws.

(13) Mask front edge of door.

(14) Tilt top of fender out at front and lift at rear to remove fender.

Installation

(1) Refer to Chapter 3B for finishing underside of fender.

(2) Tilt rear of fender up and position fender in place.

(3) Align front of fender to lower grille panel and install attaching screws.

(4) Install fender-to-wheelhouse screws (refer to Torque Specifications).

(5) Install fender brace to fender skirt and secure with screws.

(6) Install and tighten fender-to-pillar and fender-to-rocker panel screws.

(7) Install plastic splash panel.

(8) Brush or spray undercoating onto entire splash-panel-to-fender contact area to provide complete seal.

(9) Install headlamp mounting panel to radiator support attaching screws.

(10) Install grille-to-headlamp mounting panel plastic fastener.

(11) Insert headlamp wiring through headlamp mounting panel and connect wiring connector.

(12) Connect side marker lamp wires.

(13) Install headlamp bucket and headlamp door.

(14) Install fender flare and front spoiler, if equipped.

(15) Install windshield reveal moulding.

MATADOR COUPE**Removal**

(1) Mask bumper and edge of door to prevent scratching.

(2) Disconnect side marker lamp.

(3) Remove screws attaching fender to lower splash panel.

(4) Remove screws attaching fender to wheelhouse at front and top.

(5) Remove grille-to-headlamp bracket attaching screws.

CAUTION: Use care when pulling grille forward as grille is molded plastic and can crack.

(6) Pull grille forward and remove fender-to-headlamp bracket attaching screws.

(7) Remove screw attaching fender brace.

(8) Remove screw attaching fender to cowl panel.

(9) Remove rocker panel moulding from fender, if equipped.

(10) Break weld between rocker panel and fender.

(11) Remove screws attaching fender to under panel.

(12) Remove fender-to-inner panel attaching screws.

(13) Remove fender.

Installation

(1) Refinish broken weld between fender and rocker panel (rewelding is not necessary).

(2) Place fender in position and install screws attaching fender to under panel.

(3) Install screws attaching fender brace.

(4) Install screws attaching fender to wheelhouse (refer to Torque Specifications).

(5) Install screws attaching fender brackets to wheelhouse.

(6) Install screws attaching fender to headlamp bracket.

(7) Install screws attaching grille to headlamp bracket.

(8) Install screws attaching fender to lower splash panel.

(9) Connect side marker lamp socket.

(10) Install rocker panel moulding, if equipped.

(11) Remove tape from bumper and door.

MATADOR SEDAN AND STATION WAGON**Removal**

- (1) Tape front edge of door.
- (2) Remove cowl side ventilator panel.
- (3) Remove front body pillar-to-fender screw from the inside.
- (4) Remove upper fender-to-pillar attaching screw located on outside above door hinge.
- (5) Remove lower fender attaching screw located on outside directly below front body pillar.
- (6) Remove screws attaching fender to wheelhouse.
- (7) Remove headlamp door and outer headlamp.
- (8) Remove screws attaching fender to radiator support baffle.
- (9) Disconnect fender brace.
- (10) Remove screws attaching fender to lower grille panel flange.
- (11) Disconnect rocker panel mouldings from fender, if equipped.
- (12) Break weld between fender and rocker panel and remove fender-to-rocker panel attaching screw.
- (13) Disconnect side marker lamp.
- (14) Open door and remove fender.

Installation

- (1) Refinish weld on rocker panel and fender (re-welding is not necessary).
- (2) With door open, position fender and connect side marker lamp.
- (3) Install screws attaching fender to wheelhouse (refer to Torque Specifications).
- (4) Install screws attaching fender to lower grille panel flange.
- (5) Install screws attaching fender to radiator support baffle.
- (6) Connect fender brace.
- (7) Install outer headlamp and headlamp door.
- (8) Install lower fender attaching screw located below front body pillar.
- (9) Install upper fender attaching screw located on outside above door hinge.
- (10) Install body pillar-to-fender bolt from inside car.
- (11) Install cowl side ventilator panel.
- (12) Connect rocker panel moulding to fender, if equipped.

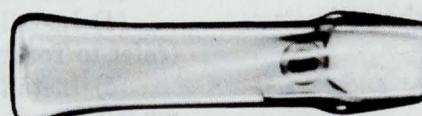
Torque Specifications

Service Set-To Torques should be used when assembling components. **Servcie In-Use Recheck Torques** should be used for checking a pre-torqued item.

	METRICS (N·m)	USA (in-lbs.)
Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque
Front Fender to Gusset & Rocker Panel — Pacer	95	6.8-9.6
Front Fender to Front Grille Panel — Pacer	75	5.7-7.9
Panel Radiator Grille to Radiator Baffle — Pacer	13.6	12.4-14.7
Grille to Hood — Pacer	6.2	5.7-7.9
Fender Attaching Screws — All except Pacer	7.9	6.8-9.6

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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Special Tools

J-21549-1
HANDLE



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

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BUMPERS

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ENERGY ABSORBING BUMPER SYSTEMS

Recoverable front and rear bumpers are used on all Pacer and Matador models.

Recoverable front bumpers and nonrecoverable rear bumpers are on Gremlin, Concord and AMX models.

NOTE: For correct bumper heights, refer to Bumper Standing Height and Tolerance Chart.

Front Bumper—Pacer

Removal

CAUTION: Do not allow one end of front bumper assembly to drop or rotation of opposite piston tube will occur and may damage the seal.

- (1) Remove absorber covers (fig. 3F-12).
- (2) Support one end of bumper and remove bumper nuts at supported end.
- (3) Remove bumper nuts on opposite end and remove bumper horizontally.

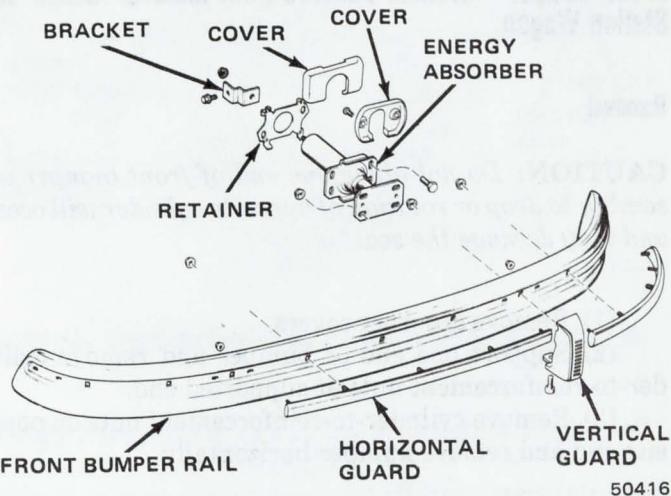


Fig. 3F-12 Front Bumper Components—Pacer

Bumper Standing Height and Tolerance

Model	Build Location	Body Gauge Point to Ground		Body Gauge Point to Ground	
		Front (Reference)	Rear	Front	Rear
Pacer Sedan	Kenosha	12.88	9.98	20.94	21.84
Pacer Wagon	Kenosha	12.87	9.90	20.97	21.71
Gremlin	Kenosha	14.29	11.33	20.73	21.89
	Brampton	14.32	11.82	20.85	21.58
Concord-AMX	Kenosha	14.32	11.31	20.75	21.92
	Brampton	14.35	11.15	20.87	21.60
Matador Coupe	Kenosha	14.38	12.02	21.34	22.06
Matador Sedan	Kenosha	14.54	12.18	22.49	22.88
Matador Station Wagon	Kenosha	15.41	12.51	23.00	23.01

NOTES: 1. Front Body Gauge Points: All models except Pacer Sedan Bottom of Sill at Wheel Centerline
Pacer Sedan Bottom of Front Crossmember Extension

2. Rear Body Gauge Points: Gremlin, Concord, AMX, Pacer Sedan Centerline of Rear Spring Front Mounting Brkt. Matador Coupe, Matador Sedan, Matador Station Wagon Centerline of Rear Lower Control Arm Front Mounting Brkt.

3. All Bumper Gauge Points: At top of bumper.

4. All Standing Heights are specified for:

35 psi — Tire Pressure and Factory Fuel Fill of 15 U.S. gallons for Brampton
and 11 U.S. Gallons for Kenosha.

5. When Body Gauge Points are used, the Gauge Point-to-Ground Tolerance is $\pm 0.5''$.

6. When Bumper Gauge Points are used, the Gauge Point-to-Ground Tolerance is $\pm 1.00''$.

7. Vehicle lean, as measured at axle centerline (Ground to Fender opening), to be within .375".

Installation

- (1) Position bumper assembly on bumper bracket and loosely install bumper nuts.
- (2) Align bumper and tighten nuts to 25 foot-pounds torque.
- (3) Install absorber covers.

Front Bumper—Gremlin-Concord-AMX-Matador Sedan and Station Wagon**Removal**

CAUTION: Do not allow one end of front bumper assembly to drop or rotation of opposite cylinder will occur and may damage the seal.

- (1) Remove absorber covers.
- (2) Support one end of bumper and remove cylinder-to-reinforcement nuts at supported end.
- (3) Remove cylinder-to-reinforcement nuts on opposite end and remove bumper horizontally.

Installation

- (1) Position bumper assembly on bracket and install mounting hardware loosely.
- (2) Align bumper and secure mounting hardware.
- (3) Install absorber covers.

Front Bumper—Matador Coupe**Removal**

- (1) Remove energy absorbing cover from retaining clips and fold back.

CAUTION: Do not allow one end of bumper assembly to drop or rotation of opposite cylinder will occur and may damage the seal.

- (2) Support one end of bumper and remove bumper bracket-to-bumper reinforcement bolts at supported end.

- (3) Remove bumper bracket-to-bumper reinforcement bolts at opposite end and remove bumper horizontally.

Installation

- (1) Position bumper assembly on bracket and install mounting hardware loosely.
- (2) Align bumper and secure mounting hardware.
- (3) Fold energy absorber cover forward and secure to retaining clips with plastic fasteners.

Rear Bumper—Pacer**Removal**

CAUTION: Vehicle is equipped with recoverable energy absorbing bumper system. Do not allow one end of bumper assembly to drop or rotation of opposite piston tube will occur and damage seal.

- (1) Remove absorber covers (fig. 3F-13).
- (2) Support one end of bumper and remove bumper nuts at supported end.
- (3) Remove bumper nuts on opposite end and remove bumper horizontally.

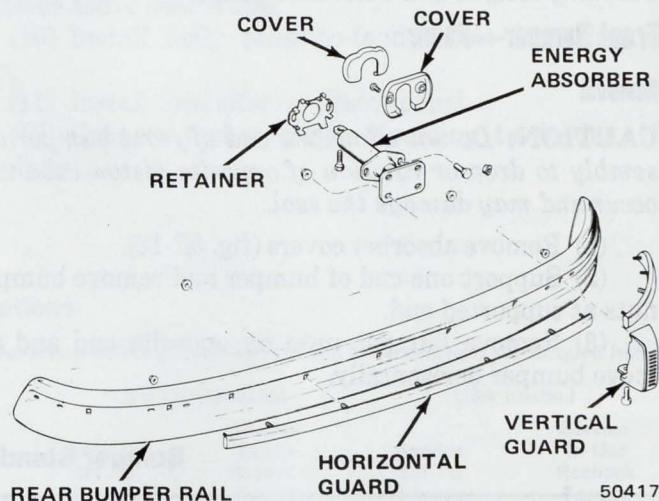


Fig. 3F-13 Rear Bumper Components—Pacer

Installation

- (1) Position bumper on bumper brackets and loosely install bumper nuts.
- (2) Align bumper and tighten nuts to 25 foot-pounds torque.
- (3) Install absorber covers.

Rear Bumper—Gremlin-Concord-AMX-Matador Sedan and Station Wagon**Removal**

CAUTION: When vehicle is equipped with recoverable energy absorbing bumper system, do not allow one end of bumper assembly to drop or rotation of opposite cylinder will occur and damage seal.

- (1) Remove absorber covers.

(2) Support one end of bumper and remove energy absorber-to-reinforcement nuts at supported end.

(3) Remove energy absorber-to-reinforcement nuts on opposite end and remove bumper horizontally.

Installation

(1) Position bumper assembly on energy absorber and install mounting hardware loosely.

(2) Align bumper and secure mounting hardware.

(3) Install absorber covers.

Rear Bumper—Matador Coupe

Removal

(1) Remove energy absorber cover from retaining clips and fold back.

CAUTION: Do not allow one end of bumper assembly to drop or rotation of opposite cylinder will occur and may damage the seal.

(2) Support one end of bumper and remove energy absorber-to-reinforcement bolts at supported end.

(3) Remove energy absorber-to-reinforcement bolts at opposite end and remove bumper horizontally.

Installation

(1) Position bumper assembly on bracket and install mounting hardware loosely.

(2) Align bumper and secure mounting hardware.

(3) Fold energy absorber cover forward and secure to retaining clips.

RECOVERABLE ENERGY ABSORBERS—FRONT

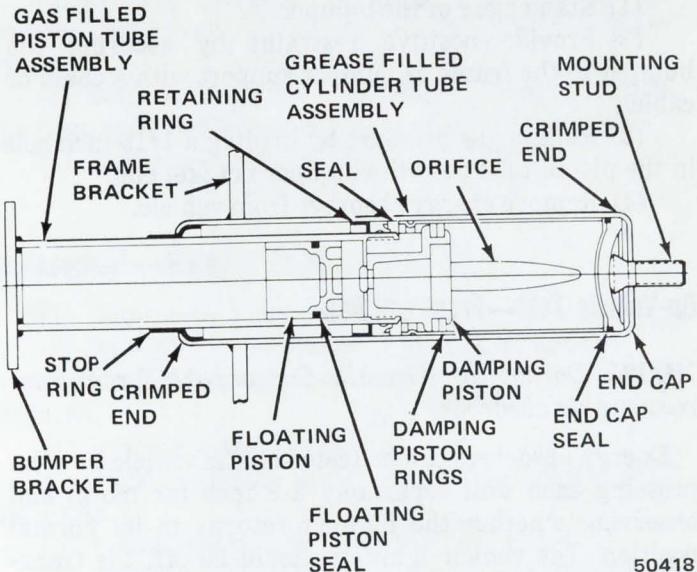
Front recoverable energy absorbers (and rear on Pacer) consist of a piston tube assembly. The absorber uses grease (fig. 3F-14) for the dampening medium. Inert gas is used to maintain the unit in an extended position.

The piston and cylinder tube assemblies are united by crimping the cylinder tube at the piston tube stop ring. The recess in the stop ring area is filled with grease to prevent the entrance of water and other contaminants.

The piston tube assembly is attached to the bumper and the cylinder tube assembly is attached to the vehicle frame.

Gas pressure in the piston tube assembly maintains the unit in an extended position with sufficient rigidity to withstand normal jacking and wrecker towing stresses. Extension is limited by a stop ring on the outside of the piston tube.

Upon impact, grease from the cylinder tube is forced into the piston tube through a metering orifice. The rate at which the grease passes through the orifice is controlled by the orifice design itself (fig. 3F-14). It is this



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Fig. 3F-14 Cross Section of Energy Absorber In Extended Position

controlled passage of grease which dampens the impact and provides energy absorption.

Grease that is forced from the cylinder tube into the piston tube displaces the floating piston and compresses the gas behind it. After impact, the pressure of the compressed gas behind the floating piston forces the grease back into the cylinder tube, and returns the absorber to its extended position.

Some oil wetting may be visible due to slight seepage of the grease packed as a sealant in the recess above the crimp (fig. 3F-14). Such stains or oil traces on the piston tube near the crimped end are normal. If hydraulic fluid or grease drips from the crimped end or mounting stud end of the unit, a leak is indicated and the unit must be replaced.

DIAGNOSIS PROCEDURE

Damage

Inspect bumper assembly, mounting brackets, and energy absorbers for evidence of collision damage. Some scuffing of the piston tube will occur and is to be considered normal. If there is obvious damage to the unit (dents, leakage, torn mounts, etc.), it should be replaced.

When an energy absorber is bound-up as a result of a collision, it should be removed from the vehicle only after the gas pressure has been relieved.

Use the following procedure to depressurize a bound-up unit.

WARNING: Wear approved safety glasses when depressurizing an energy absorber. Never apply heat or attempt to weld or repair pressurized units.

- (1) Stand clear of the bumper.
- (2) Provide positive restraint by securing the bumper to the frame or bumper support with a chain or cable.
- (3) Relieve gas pressure by drilling a 1/16-inch hole in the piston tube near the bumper bracket end.
- (4) Remove energy absorber from vehicle.

On-Vehicle Test—Front and Rear

NOTE: Do not test Gremlin-Concord-AMX rear non-recoverable absorber.

Energy absorbers can be tested on the vehicle by compressing each unit separately 3/8 inch (or more) and observing whether the bumper returns to its normal position. The vehicle ignition should be off, the transmission in park position, the parking brake set, and service brake pedal depressing tool installed. A suitable barrier can be utilized, such as a pillar, wall, post, or an anchorable device such as that used for body or frame repair. The jacking device can be a hydraulic or mechanical jack or a hydraulic pump-type unit (fig. 3F-15).

CAUTION: Energy absorbers must not be tested by driving car against post, walls, or barriers.

- (1) Align jacking device with energy absorber being tested.

NOTE: The jacking device should be positioned squarely with the bumper to avoid slipping.

- (2) Apply pressure to compress energy absorber at least 3/8 inch, using an indicator (such as a 6-inch scale) to detect travel.

- (3) Relieve pressure and allow bumper to return to original position.

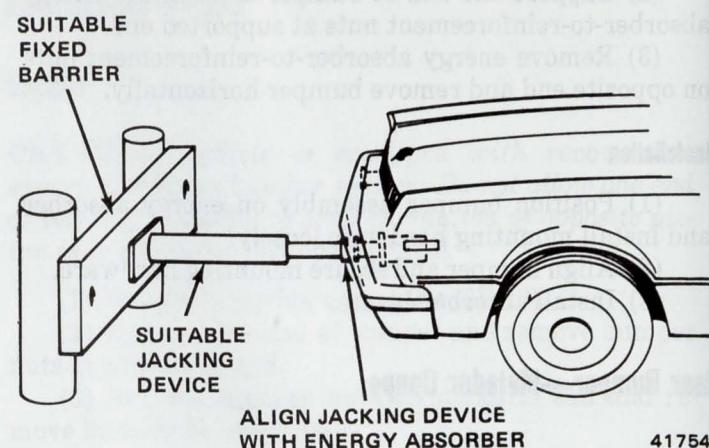
- (4) Repeat above procedures for each energy absorber.

If bumper returns to its original position, the energy absorber is capable of withstanding low speed impacts. If an energy absorber fails to return to its original position, it should be replaced.

Bench Test

Energy absorbers may be bench tested prior to installation on a vehicle or to check energy absorbers removed while making collision repairs.

Use a suitable arbor press to compress energy absorber at least 3/8 inch. Observe whether the energy absorber returns to its original position. If not, the unit should be replaced.



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Fig. 3F-15 Typical On-Vehicle Energy Absorber Test

Disposal

WARNING: Wear approved safety glasses when depressurizing an energy absorber. Never apply heat or attempt to weld or repair pressurized units.

Relieve gas pressure if the energy absorber is to be scrapped. Drill a 1/16-inch hole in the piston tube near the bumper bracket end.

Replacement Front and Rear—Pacer

- (1) Remove bumper assembly.
- (2) Remove attaching hardware and remove energy absorber.
- (3) Position energy absorber on vehicle and install attaching hardware loosely.
- (4) Install and align bumper assembly. Tighten attaching hardware to 25 foot-pounds (33.9 Nm) torque.

Replacement—Gremlin-Concord-AMX-Matador Sedan and Station Wagon

- (1) Remove bumper assembly.
- (2) Remove attaching hardware and remove energy absorber.
- (3) Position energy absorber on vehicle and install attaching hardware loosely.
- (4) Install bumper assembly and align. Tighten attaching hardware to 25 foot-pounds (33.9 Nm) torque.

Replacement—Matador Coupe

- (1) Remove bumper assembly.
- (2) Remove attaching hardware and remove energy absorber.

(3) Remove cover from energy absorber and install on new energy absorber in cover.

(4) Position energy absorber and install mounting hardware loosely.

(5) Install bumper assembly and align assembly. Tighten attaching hardware to 25 foot-pounds (33.9 Nm) torque.

RECOVERABLE ENERGY ABSORBERS—REAR

Rear recoverable energy absorbers, except Pacer, are a cylinder tube assembly. The aluminum cylinder is filled with a compressible inert liquid silicone.

On impact the liquid silicone in the cylinder is forced around the solid piston which, along with the cylinder wall, forms a metering orifice (fig. 3F-16). The unit returns to its normal position after impact because of a preload put on the compressible silicone at the time of assembly.

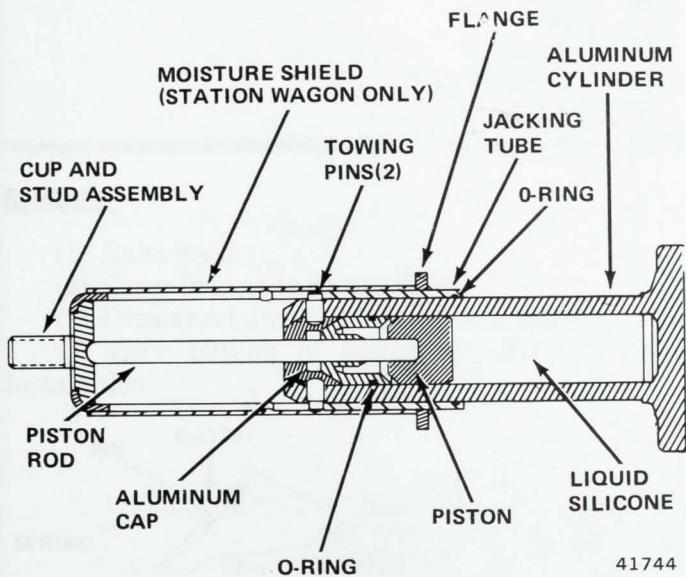


Fig. 3F-16 Cross Section of Rear Energy Absorber in Extended Position

Depressurization

If the unit is bound up, use the following procedure to depressurize prior to removal from the vehicle.

(1) Stand clear of bumper.

(2) Provide positive restraint by securing the bumper to the frame or bumper support with a chain or cable.

(3) Relieve pressure by drilling a 1/16-inch hole in the aluminum cylinder near the bumper bracket end.

(4) Remove energy absorber from vehicle.

Replacement—Matador Coupe and Sedan

(1) Remove rear bumper assembly.

(2) Remove energy absorber cover (Coupe only).

(3) Remove nuts from energy absorber from inside of trunk.

(4) Remove energy absorber.

(5) Pack body caulk around base of absorber mounting studs.

(6) Install energy absorber cover (Coupe only).

(7) Position energy absorber on vehicle and secure nuts.

(8) Install rear bumper assembly.

Replacement—Matador Station Wagon

(1) Remove rear bumper assembly.

(2) If replacing right absorber, remove spare tire. If replacing left absorber, remove rear auxiliary floor side compartment.

(3) Remove nut on rear of energy absorber from inside car.

(4) Remove flange mounting nuts from outside car and pull off absorber.

(5) Place body caulk on end of absorber and position on vehicle.

(6) Install and tighten nuts (refer to Torque Specifications).

(7) Install components removed in step (2), above.

(8) Install rear bumper assembly.

NONRECOVERABLE ENERGY ABSORBERS

Replacement—Gremlin-Concord-AMX

(1) Remove rear bumper assembly.

(2) Remove plugs in rear floorpan and remove bolt.

(3) From outside car, remove nuts on flange of absorber and pull off absorber.

(4) Position absorber and install nuts.

(5) Install bolt in rear of absorber and tighten. Install plugs in floorpan.

(6) Install rear bumper assembly.

Torque Specifications

Service Set-To Torques should be used when assembling components. **Service In-Use Recheck Torques** should be used for checking a pre-torqued item.

	METRICS (N·m)	USA (ft-lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Bumper Bracket to Sill, Bolt 1/2-13	108	95-136	80	70-100
End Stud Nut, Rear E.A. Unit 1/2-13 – Matador	81	68-95	60	50-70
Rear Bumper E.A. Unit Flange to Body, Nut 3/8-16 – Matador	54	41-81	40	30-60
Rear Bumper E.A. Unit or Back Bar Flange to Body Nut 3/8-16 – Gremlin-Concord-AMX	47	41-61	35	30-45
Bumper Assembly Fasteners; 3/8, 3/16, 1/2	34	27-47	25	20-35
Nerf Strip Studs and Corner Guard Studs, Nut 1/4-20	11	8-18	8	6-13
Nerf Strip Studs, Nuts 10-24	7	4-8	5	3-6
Rear Bumper E.A. Tubes, 5/8-11 Gremlin-Concord-AMX	81	68-95	60	50-70

All Torque values given in newton-meters and foot-pounds with dry fits unless otherwise specified.

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HOODS

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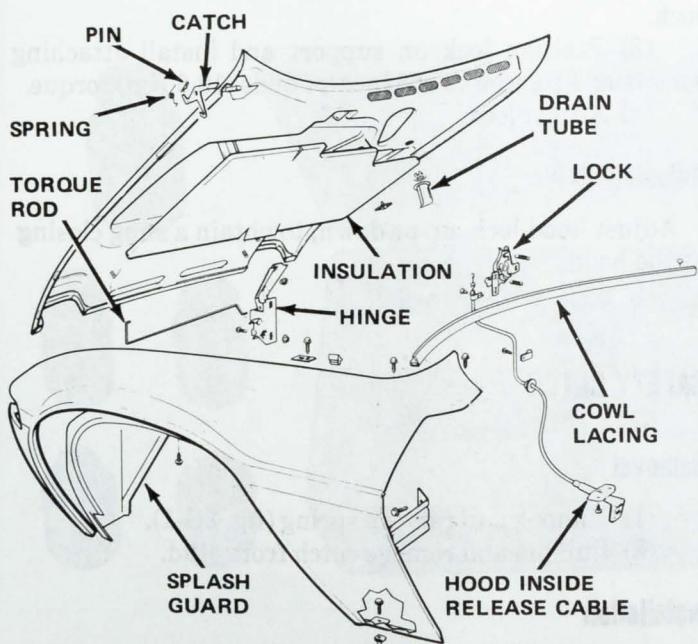
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PACER HOOD

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Installation	3G-1	Torque Rods	3G-2

REMOVAL

- (1) Raise hood.
- (2) Cover fenders to protect finish.
- (3) Disconnect underhood lamp, if equipped.
- (4) Mark outline of hinges on hood to aid in installation.



- (5) Remove screws attaching grille to hood.
- (6) Remove nuts attaching hinges to hood (fig. 3G-1).
- (7) Remove hood.

INSTALLATION

- (1) Place hood in position and install nuts attaching hinges to hood.
- (2) Install screws attaching grille to hood.
- (3) Align marks on hood with hinges and tighten nuts to 23 foot-pounds (31.2 Nm) torque.
- (4) Connect underhood lamp, if equipped.
- (5) Remove fender covers
- (6) Check hood alignment.

ALIGNMENT

The hood hinge mounting holes are enlarged for forward, back, up and down, and side adjustment. If the hood is low in relation to the front fender top, loosen hinge-to-grille support screws and raise hinge. If it is too high at the front fender, loosen hinge-to-grille support screws and lower hinge. If hood is too far forward, loosen hinge-to-hood nuts and slide hood rearward. If hood is too far rearward, loosen hinge-to-hood nuts and slide hood forward. Adjust the hood rubber bumper(s) up or down to provide proper hood-to-fender height alignment. Adjust hood lock to a vertical position so striker does not bind when closing hood.

INSIDE RELEASE CABLE**Removal**

(1) Remove screws, using Torx Bit Tool J-25359-02, attaching inside release cable bracket to lower instrument finish panel.

- (2) Remove screw attaching cable to dash panel.
- (3) Remove screw attaching cable clamp to lock.
- (4) Disconnect cable end from lock lever.
- (5) Remove inside release cable from car.

Installation

(1) Position inside release cable in car.

(2) Connect cable end to lock lever.

(3) Install screw attaching cable clamp to lock.

(4) Install screw attaching cable clamp to dash panel.

(5) Install screws using Torx Bit Tool J-25359-02, attaching inside release cable bracket to lower instrument finish panel and tighten to 70 inch-pounds (7.9 Nm) torque.

TORQUE RODS

Torque rods are used to assist in raising the hood and holding it in the open position.

Adjustment

(1) Remove hood.

(2) Grip rod at adjustable end with Vise-Grip pliers.

(3) Push down on pliers with one hand and with other hand pull on pliers to move rod end out of hinge slot.

(a) To decrease tension, move rod end down to next hinge slot.

(b) To increase tension, move rod end up to next hinge slot.

(4) Install hood.

Removal

NOTE: The right hinge torque rod is anchored in the left hinge and the left hinge torque rod is anchored on the right hinge.

(1) Remove hood.

(2) Attach Vise-Grip pliers to adjustable end of rod.

(3) Push down on pliers with one hand and with other hand pull on pliers to move rod end to lowest hinge slot, to relax tension.

(4) Remove nonadjustable end of rod from hinge and car.

Installation

(1) Hook nonadjustable end of rod into opposite hinge.

(2) Attach Vise-Grip pliers to adjustable end of rod and adjust rod to desired tension.

(3) Install hood.

HOOD LOCK

The hood lock is attached to the engine side of the dash assembly and controlled by a hood inside release cable. The release handle is located to the right of the steering column at the bottom of the lower instrument finish panel. The hood loop striker is welded to the hood and is not adjustable. A safety catch is mounted on the left side of the hood.

Manual Release of Hood Lock

In case of cable failure, the hood lock can be released manually.

Access to the lock can be accomplished by lying under the car behind the left front wheel and reaching through the open area between the engine and dash panel with a wire hook. Manually pull the cable release lever down to release the hood lock.

Removal

(1) Remove screws attaching lock to support.

(2) Remove screw attaching hood release cable to lock.

(3) Disconnect inside release cable from lever.

(4) Remove lock.

Installation

(1) Connect inside release cable to lever.

(2) Install screw attaching hood release cable to lock.

(3) Position lock on support and install attaching screws and tighten to 165 inch-pounds (18.6 Nm) torque.

(4) Adjust lock.

Adjustment

Adjust hood lock, up or down, to obtain a snug closing of the hood.

SAFETY CATCH**Removal**

(1) Unhook and remove spring (fig. 3G-1).

(2) Pull pin and remove catch from stud.

Installation

(1) Position catch on stud and install pin.

(2) Position spring on stud and engage catch.

HINGES**Removal**

- (1) Remove hood.
- (2) Remove torque rods.
- (3) Remove screws attaching hinge to grille support and remove hinge.

Installation

- (1) Position hinge on grille support and install attaching screws and tighten to 28 foot-pounds (31.2 Nm) torque.
- (2) Install torque rods.
- (3) Install hood.
- (4) Check hood alignment.

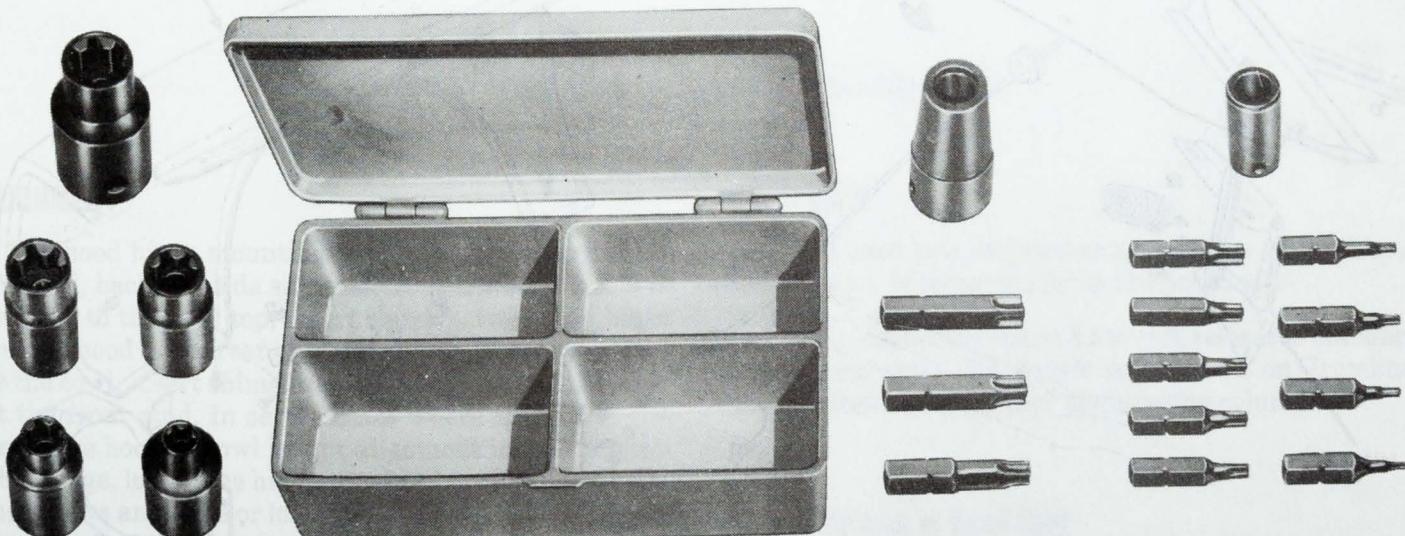
SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	Metric (N·m)		USA (in.lbs)	
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
Grille to Hood	6	6-8	55	50-70
Hood Hinge to Hood	31	24-37	23 ft-lbs	18-27 ft-lbs
Hood Hinge to Radiator Baffle	31	24-38	23 ft-lbs	18-28 ft-lbs
Hood Hinge Reinforcement to Side Sill	19	17-20	165	150-180
Hood Latch Assy	19	16-27	165	140-235
Inside Hood Release Handle	8	7-9	70	60-80

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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Special Tools

J-25359-02
TORX BIT AND SOCKET SET

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GREMLIN, CONCORD, AMX HOOD

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	Removal
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REMOVAL

- (1) Raise hood (fig. 3G-2 and 3G-3).
 - (2) Cover fenders to protect finish.
 - (3) Disconnect underhood lamp, if equipped.
 - (4) Mark outline of hinges on hood to aid to installation.
 - (5) Remove nuts attaching hinges to hood.
 - (6) Remove hood.

INSTALLATION

- (1) Place hood in position and install nuts attaching hinges to hood.
 - (2) Align marks on hood with hinges and tighten nuts to 23 foot-pounds torque.
 - (3) Connect underhood lamp, if equipped.
 - (4) Remove fender covers and close hood.
 - (5) Align hood.

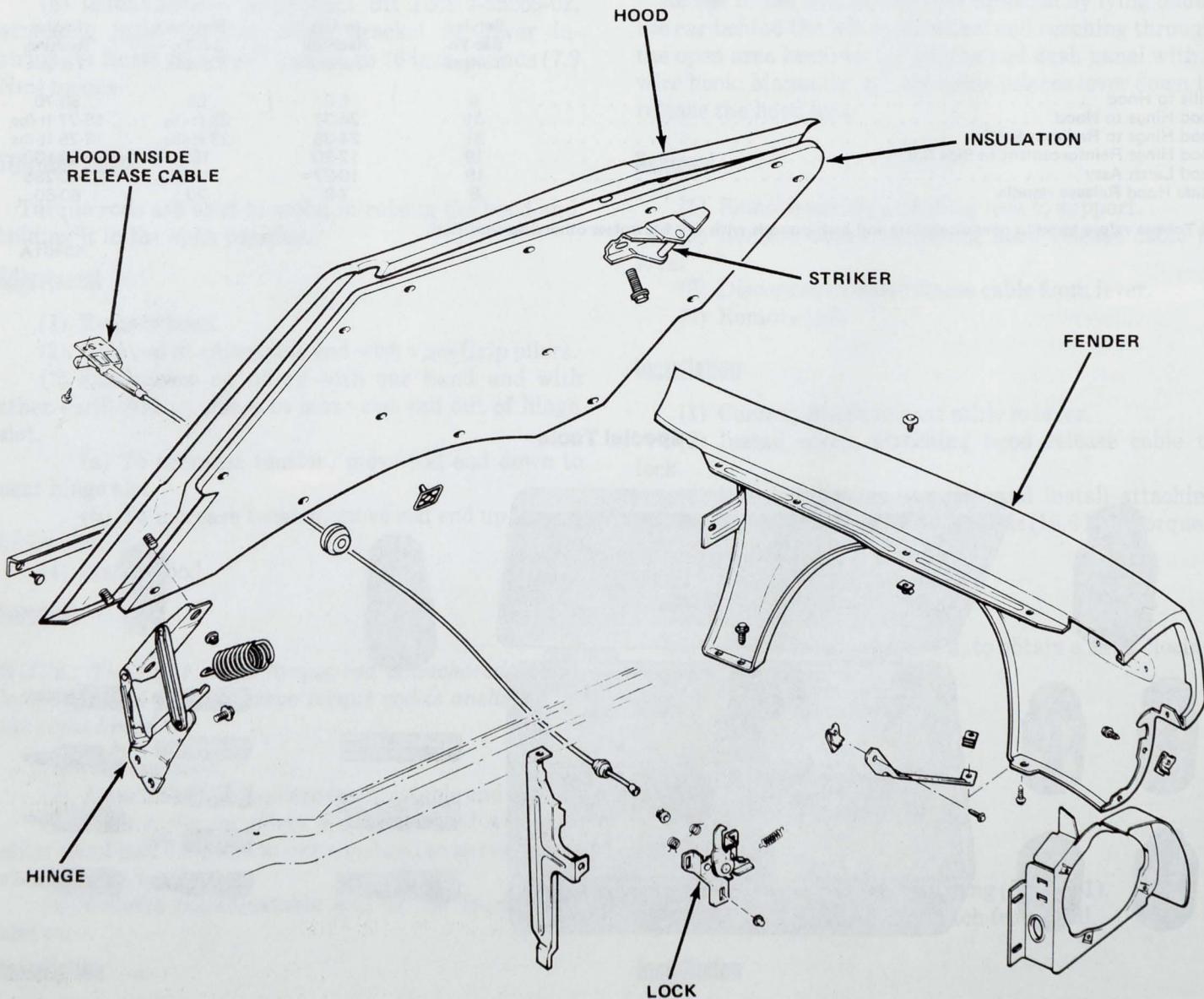


Fig. 3G-2 Front Fender and Hood Components—Gremlin

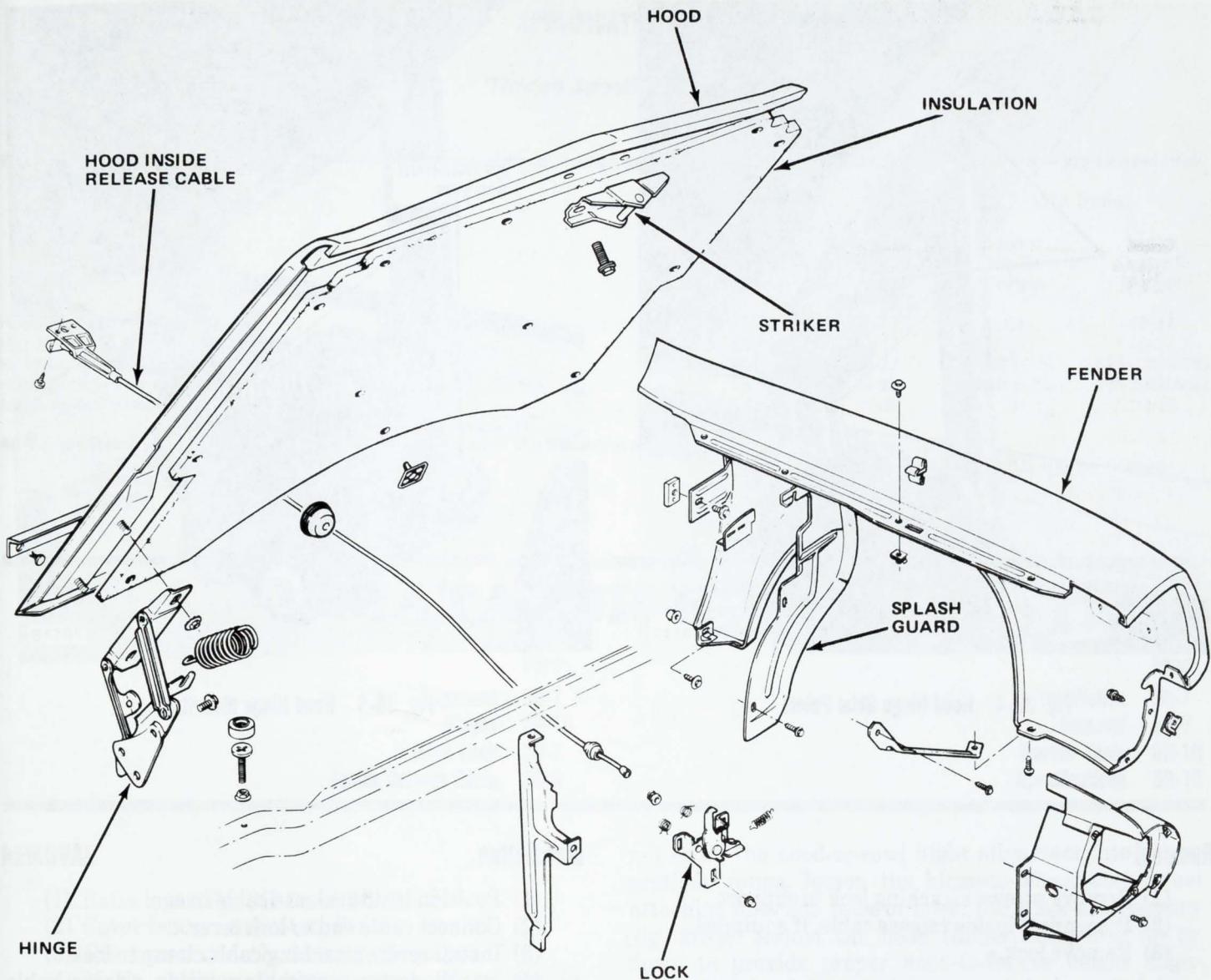


Fig. 3G-3 Front Fender and Hood Components—Concord-AMX

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ALIGNMENT

The hood hinge mounting stud holes are enlarged for forward, back and side adjustment. If the hood is low in relation to the cowl top, insert shims between the hinge and the hood at the rear stud (fig. 3G-4). If it is too high at the cowl, insert shims between the hinge and the hood at the front stud. In severe cases where shims will not bring the hood-to-cowl height alignment into an acceptable range, loosen the hinge-to-wheelhouse panel attaching screws and raise or lower the hinge as necessary (fig. 3G-5). Adjust the hood rubber bumper(s) up or down to provide proper hood-to-fender height alignment. Position lock straight up and down and tighten screws to 138 inch-pounds (15.6 Nm) torque. Align striker so it enters lock squarely, without binding.

HOOD LOCK

Single hood lock and striker are used on all models. A safety catch is incorporated in the hood lock.

A cable-controlled inside hood lock release is standard on Concord and AMX models and optional on Gremlins. It is located to the right of the steering column.

Manual Release of Hood Lock

In case of cable failure, the hood lock can be released manually. Reach through opening in front of radiator support with a wire hook. Engage wire hook on cable release lever and pull to left side of car.

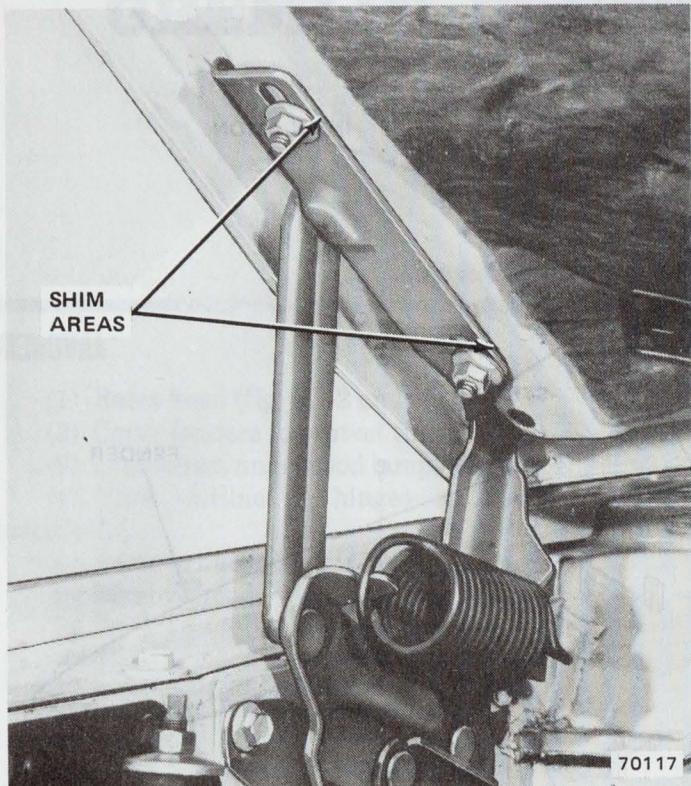


Fig. 3G-4 Hood Hinge Shim Points

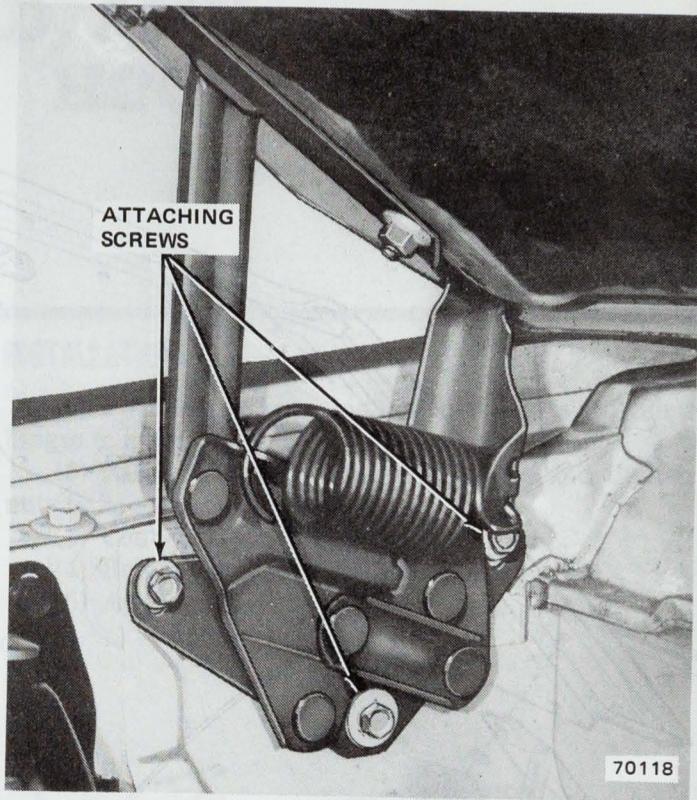


Fig. 3G-5 Hood Hinge Mounting

Removal

- (1) Remove screws attaching lock to support.
- (2) Disconnect inside release cable, if equipped.
- (3) Remove lock.

Installation

- (1) Connect inside release cable, if equipped.
- (2) Position lock on support and install attaching screws and tighten screws to 138 inch-pounds (15.6 Nm) torque.
- (3) Adjust lock.

Adjustment

Adjust hood lock, up or down, to obtain a snug closing of the hood.

INSIDE RELEASE CABLE

Removal

- (1) Remove screws, attaching inside release cable bracket to instrument panel.
- (2) Remove screw attaching cable clamp to lock.
- (3) Disconnect cable end from lock lever.
- (4) Remove inside release cable from car.

Installation

- (1) Position inside release cable in car.
- (2) Connect cable end to lock lever.
- (3) Install screw attaching cable clamp to lock.
- (4) Install screws, attaching inside release cable bracket to instrument panel and tighten to 70 inch-pounds (7.9 Nm) torque.

HINGES

Removal

- (1) Remove hood.
- (2) Remove screws attaching hinge-to-wheelhouse panel and remove hinge.

Installation

- (1) Position hinge on wheelhouse panel and install attaching screws and tighten to 23 foot-pounds (31.2 Nm) torque.
- (2) Install hood.
- (3) Check hood alignment.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	Metric (N·m)	USA (ft.lbs)		
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
Hood Hinge to Hood Screws	31	24-37	23	18-27
Hood Hinge to Wheelhouse Screws	31	24-37	23	18-27
Hood Lock Assembly Attaching Screws	16	14-27	138 in-lbs	125-235 in-lbs
Hood Lock Striker to Hood Screws	16	14-27	138 in-lbs	125-235 in-lbs
Inside Hood Release Handle to Instrument Panel	54	41-68	40	30-50

All Torque values given in newton-meters and foot-pounds with dry fits unless otherwise specified.

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MATADOR HOOD

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Hood Lock	3G-7	Special Tools	3G-10
Inside Release Cable	3G-8	Specifications	3G-10

REMOVAL

- (1) Raise hood (fig. 3G-6 and 3G-7).
- (2) Cover fenders to protect finish.
- (3) Disconnect underhood lamp, if equipped.
- (4) Mark outline of hinges on hood to aid in installation.
- (5) Remove nuts attaching hinges to hood.
- (6) Remove hood.

INSTALLATION

- (1) Place hood in position and install nuts attaching hinges to hood.
- (2) Align marks on hood with hinges and tighten nuts to 23 foot-pounds (31.2 Nm) torque.
- (3) Connect underhood lamp, if equipped.
- (4) Remove fender covers and close hood.
- (5) Align hood.

ALIGNMENT

The hood hinge mounting holes are enlarged for forward, back, and side adjustment. If the hood is low in relation to the cowl top, insert shims between the hinge and the hood at the rear stud (fig. 3G-7). If it is too high at the cowl, insert shims between the hinge and the hood at the front stud. In severe cases, as where shims will

not bring the hood-to-cowl height alignment into an acceptable range, loosen the hinge-to-wheelhouse panel attaching nuts and raise or lower the hinge as necessary (fig. 3G-9). Adjust the hood rubber bumper(s) up or down to provide proper hood-to-fender height alignment. Position locks straight up and down and tighten screws to 138 inch-pounds (15.6 Nm) torque. Align strikers parallel with front bumper, so striker enters lock squarely without binding. Tighten striker attaching screws.

HOOD LOCK

Dual hood locks and loop strikers are used on all Matadors. The hood locks are connected by a release rod which is fastened to each lock with a retainer (fig. 3G-6 and 3G-7). A safety catch is mounted to the hood.

A cable-controlled inside hood lock release is available on all cars. It is located to the left of the steering column at the bottom of the lower instrument finish panel.

Manual Release of Hood Lock

In case of cable failure, the hood lock on all Matadors can be released manually. Access to the latch requires lying under the front bumper and reaching up through the open area between the radiator and the lower grille

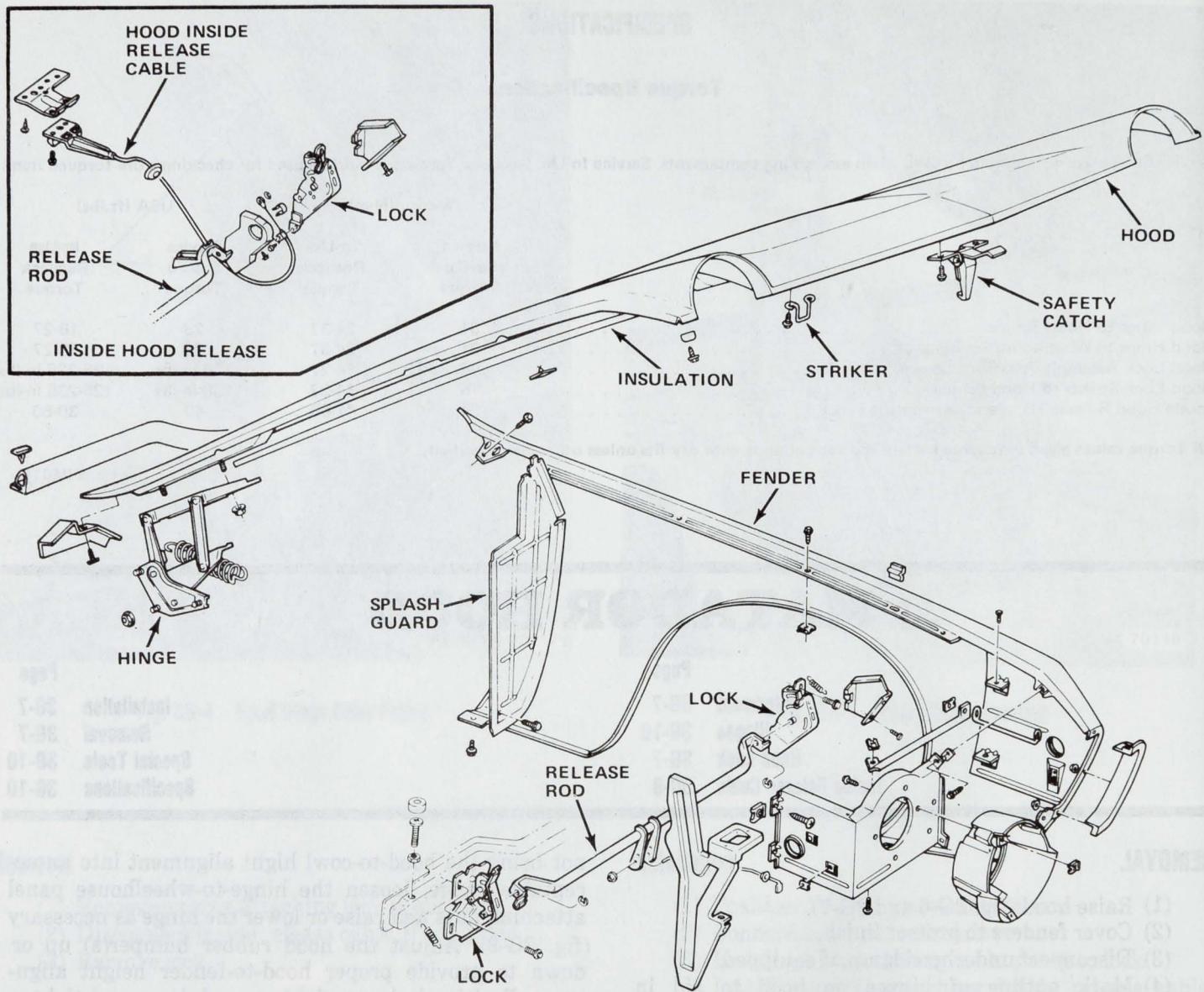


Fig. 3G-6 Front Fender and Hood Components—Matador Coupe

panel. Pull downward on the cable lever which extends approximately 1/2-inch rearward of the left side lock mechanism shield.

Removal

- (1) Remove left lock inner and outer shields.
- (2) Remove retainers attaching hood lock release rod to hood locks, both ends.
- (3) Disconnect inside release cable.
- (4) Remove release rod return spring from left lock assembly (with inside hood release).
- (5) Remove lock.

Installation

- (1) Position lock on support and install attaching screws and tighten to 138 inch-pounds (15.6 Nm) torque.
- (2) Connect inside release cable.

(3) Install hood lock release rod and secure with retainers, both ends.

(4) Install release rod return spring to left lock, if removed.

(5) Install left lock inner and outer shields.

Adjustment

Adjust hood locks, up or down, to obtain a snug closing of the hood.

INSIDE RELEASE CABLE

Removal

- (1) Remove screws, using Torx Bit Tool J-25359-02, attaching inside release cable bracket to lower instrument finish panel.

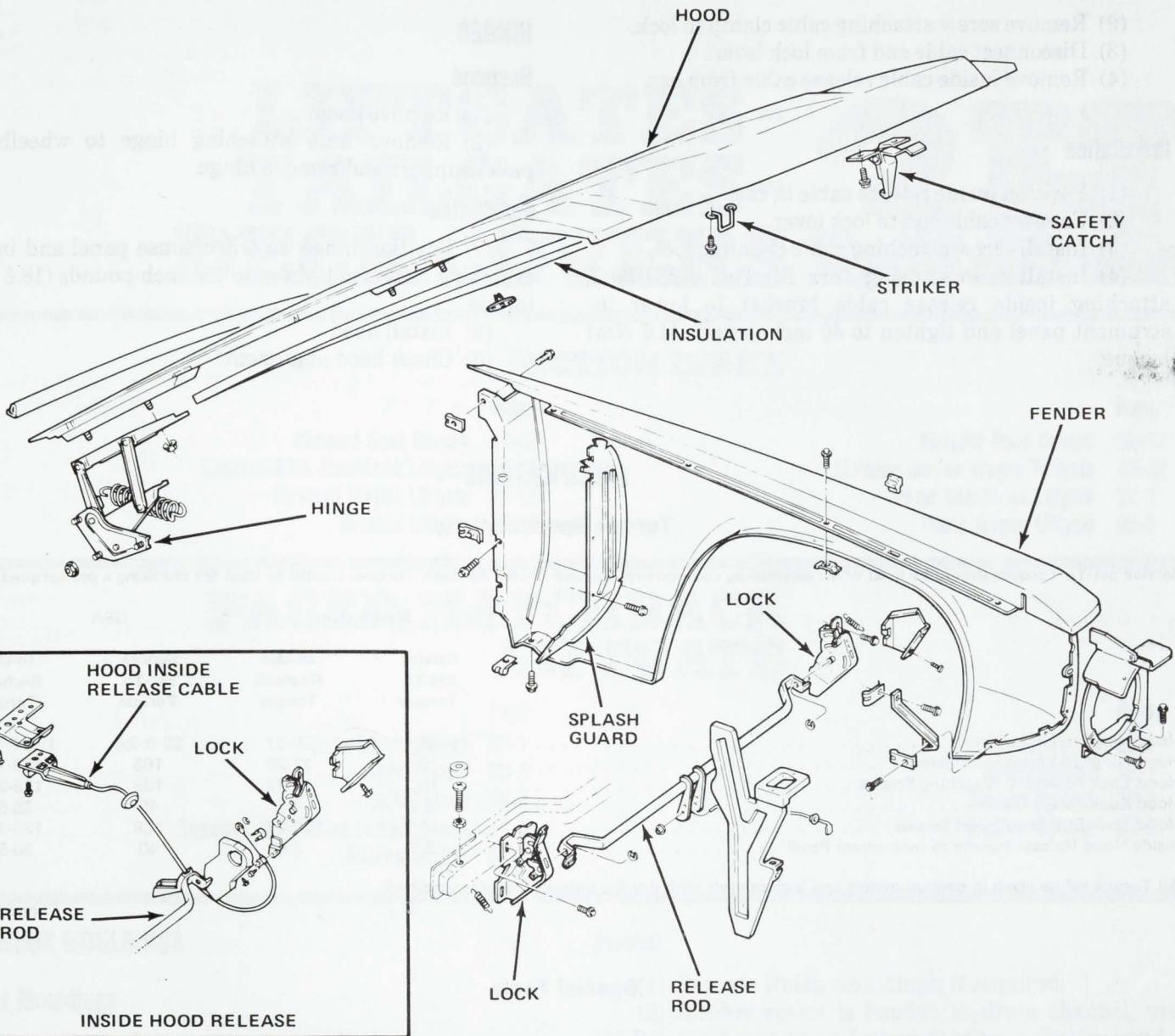


Fig. 3G-7 Front Fender and Hood Components—Matador Sedan

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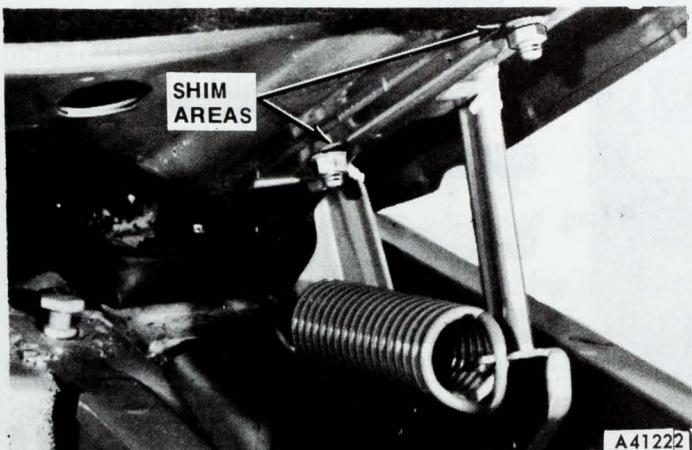


Fig. 3G-8 Hood Hinge Shim Points

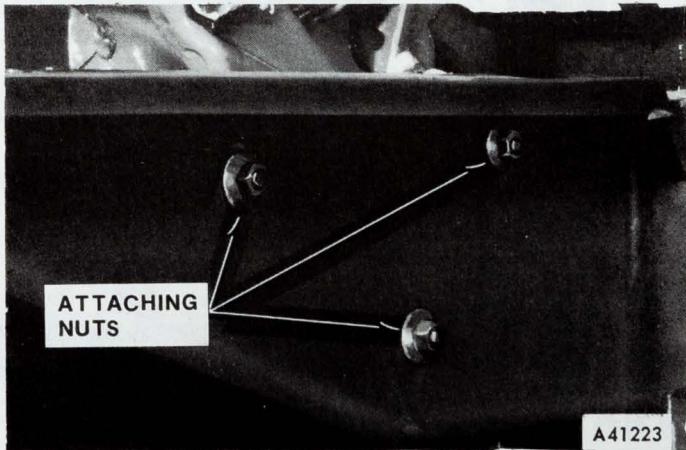


Fig. 3G-9 Hood Hinge Mounting

- (2) Remove screw attaching cable clamp to lock.
- (3) Disconnect cable end from lock lever.
- (4) Remove inside cable release cable from car.

Installation

- (1) Position inside release cable in car.
- (2) Connect cable end to lock lever.
- (3) Install screw attaching cable clamp to lock.
- (4) Install screws, using Torx Bit Tool J-25359-02, attaching inside release cable bracket to lower instrument panel and tighten to 40 inch-pounds (4.5 Nm) torque.

HINGES

Removal

- (1) Remove hood.
- (2) Remove nuts attaching hinge to wheelhouse panel support and remove hinge.

Installation

- (1) Position hinge on wheelhouse panel and install attaching nuts and tighten to 165 inch-pounds (18.6 Nm) torque.
- (2) Install hood.
- (3) Check hood alignment.

SPECIFICATIONS

Torque Specifications

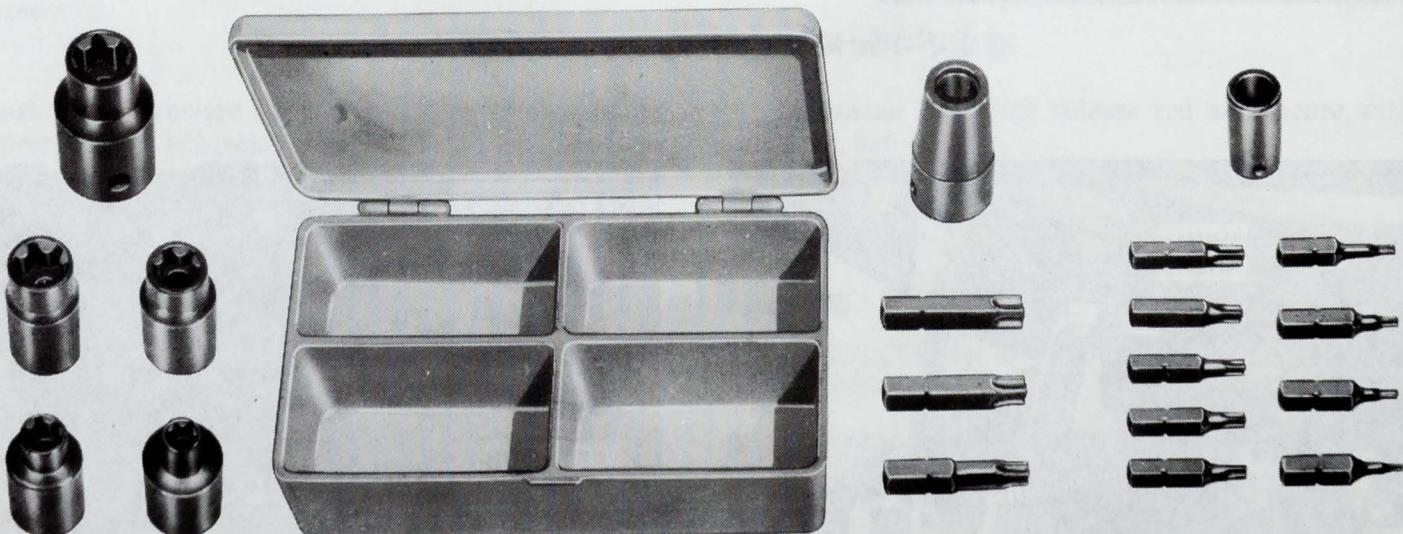
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	Metric (N·m)	USA	
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque
Hood Hinge to Hood Screws	31	20-37	23 ft-lbs
Hood Hinge to Wheelhouse Screws	19	17-20	165
Hood Lock Assembly Attaching Screws	16	14-27	138
Hood Lock Safety Catch	5	4-6	45
Hood Lock Striker to Hood Screws	16	14-27	138
Inside Hood Release Handle to Instrument Panel	5	3-6	40

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

60401C

Special Tools



J-25359-02
TORX BIT AND SOCKET SET

70119

LIFTGATES- TAILGATES- DECK COVERS

3H

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PACER HATCHBACK LIFTGATE

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EXTERIOR MOULDINGS

Metal Mouldings

All metal mouldings are attached with clips; however some mouldings are also attached with sheet metal screws.

Replacement

- (1) Remove sheet metal screws attaching moulding to panel, if equipped.
- (2) Pry moulding off clips using fiber or wooden stick.
- (3) Remove moulding clips.
- (4) Install replacement moulding clips.
- (5) Position moulding over clips and press into place.
- (6) Install sheet metal screws attaching moulding to panel, if equipped.

SEALING SYSTEM

Rubber Sealer

The rubber sealer is bonded to the drain channel and seals against the liftgate inner panel.

Removal

- (1) Remove finish mouldings, if required.
- (2) Rubber sealer is bonded to drain channel, use 3M Release Agent or equivalent to soften adhesive bond.
 - (a) Using snorkel tube, spray a generous quantity between rubber sealer and drain channel.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.
 - (c) Lift rubber sealer from drain channel before solvent evaporates and adhesive resets.
 - (d) Remove old adhesive from drain channel using 3M General Purpose Adhesive Cleaner or equivalent.

Installation

- (1) Remove protective powders from replacement rubber sealer with 3M General Purpose Adhesive Cleaner or equivalent.
- (2) Rubber sealer bonded installation:
 - (a) Apply 1/8-inch bead of 3M Weatherstrip Adhesive, or equivalent, in drain channel.
 - (b) Position one end of sealer in drain channel to left of striker.
 - (c) Install sealer around full length of drain channel being careful not to stretch sealer.

(d) At bottom of body opening, cut off excess from end of rubber sealer and bond together with Loc-tite Vinyl Bonding Adhesive 8127960 or equivalent.

WINDOW SYSTEM

Glass Assembly

The rear window is made of one layer of tempered glass which will withstand considerable impact but will shatter into small pieces if fractured.

The electrically heated rear window is also made of one-layer, tempered glass with two vertical bus bars and horizontal rows of heating elements of a silver-bearing, ceramic-enamel compound baked to the inside surface of the glass.

Removal

(1) Cover adjacent areas, interior and exterior, with a protective covering to avoid paint damage and additional cleanup.

(2) Remove exterior reveal mouldings.

NOTE: Remove the reveal mouldings using Reveal Moulding Remover Tool J-21549-1 and J-21549-10 or J-21549-11.

(a) Insert tool between glass and moulding, parallel with glass (fig. 3H-1).

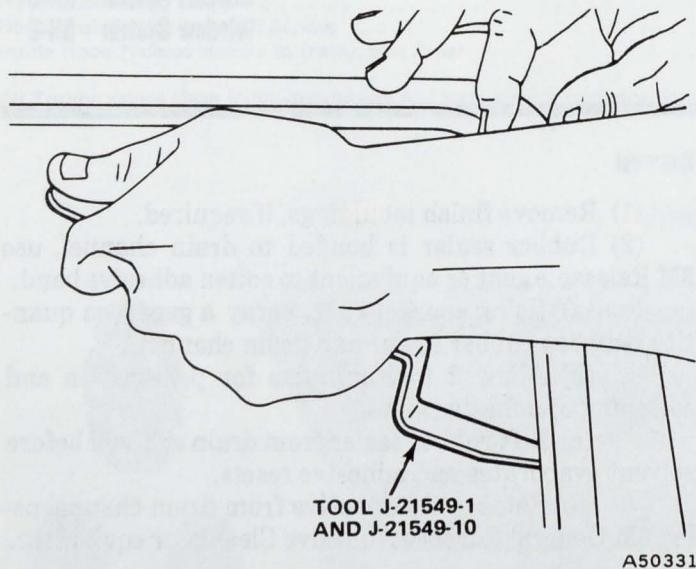


Fig. 3H-1 Removing Reveal Moulding

(b) Pry mouldings from clips with a rolling action.

(3) On cars equipped with electrically heated rear windows, disconnect feed wire and ground wire connections as described below:

(a) Remove center, left, and right finish mouldings.

(b) Disconnect wires.

(c) Tape wire leads to inside surface of glass.

NOTE: During removal and installation of a glass equipped with defogger grids, use extreme care to prevent damage to any of the grids or buss lines. A scratch through a grid will open the circuit making the grid inoperative.

(4) With liftgate closed, slowly push glass outward along top applying foot pressure until butyl seal stretches 1 to 2 inches.

(5) Have an assistant cut stretched butyl seal with scissors.

(6) Apply pressure and cut seal around the complete glass with razor knife.

(7) Use wood spacer blocks to keep glass separated from opening as sealer on glass will again adhere to sealer on flange upon contact.

(8) Remove all butyl tape from glass opening flanges by grasping the sealer near the flange and pulling it directly away.

(9) Form a ball with removed butyl and use it to daub and lift off remaining butyl.

(10) Remove all butyl sealer from flange with 3M General Purpose Adhesive Cleaner or equivalent.

Installation

(1) Correct all previously noted moulding or metal-to-glass interference.

(2) Check all reveal moulding clips for proper positioning or replace if broken.

(3) If weld studs are broken, clip can be fastened with a sheet metal screw.

(4) Check and position two rubber spacer blocks below glass, approximately 6 inches (152.4 cm) from each end. They must be in place to prevent glass from settling.

(5) Check glass protector for proper positioning on upper flanges, if equipped.

(6) Temporarily position replacement glass in opening, setting glass on spacer blocks.

(7) Center glass to achieve equal spacing on both sides.

(8) Place a piece of masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact locating when permanently installing glass. Cut tape below glass, and remove glass and place on a padded bench.

(9) Clean pinchweld flange and glass thoroughly. Glass and flange must be clean and dry.

(10) Apply a very thin uniform coat of butyl tape primer 1/2-inch (12.7 cm) wide on the flange and glass (including edge) and allow it to dry for a minimum of 10 minutes.

(11) Apply butyl tape to pinchweld flange, starting midway up the left side flush with edge of the flange.

(12) When using a service replacement butyl tape kit, equipped with an integral sponge rubber filler, the filler must be flush with edge of flange.

(13) Strip off paper liner as tape is being applied.

(14) Cut tape ends at 45° angles downward and to the outside and join ends.

(15) Place glass in opening exactly in alignment with masking tape markers as primer on glass will adhere with butyl tape immediately on contact.

(16) Firmly press glass to butyl tape using hand pressure.

(17) Trim excess primer from inside surface of glass with razor blade and wipe with cloth dampened in solvent.

(18) Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact.

(19) Additional hand pressure is necessary in these areas and in most cases will provide a positive seal.

(20) Prior to installing reveal mouldings, water test around entire sealing area.

(21) Apply liquid butyl with handgun to any open areas; use 3M Windo-Weld Resealant or equivalent.

(22) Install all mouldings.

Water Leak Correction—Butyl Tape Installation

NOTE: It is not necessary to remove the glass to perform any of the sealing operations outlined below.

(1) Always begin water spray at the lowest point and allow sufficient saturation before moving water spray upward.

(2) To best simulate normal conditions that cause water leaks, i.e., rain or car wash, water test with a spray pattern rather than a heavy, solid stream of water, which can create misleading symptoms.

(3) If leak has been located and found to be around the glass, remove reveal mouldings. Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact. Apply hand pressure to area to obtain a more positive seal. If necessary, apply 3M Windo-Weld Resealant or equivalent with a handgun for additional sealing of any open areas in the butyl tape.

(4) If any opening such as a weld burn exists, plug hole with butyl tape. Apply 3M Windo-Weld Resealant or equivalent to completely seal area.

LOCK SYSTEM

Pushbutton Cylinder

NOTE: Replacement pushbutton cylinders are furnished coded with two keys.

Removal

(1) Remove liftgate trim panel.

(2) Remove cylinder retainer, pushbutton cylinder and gasket (fig. 3H-2).

Installation

(1) Position replacement gasket on pushbutton cylinder and insert into liftgate panel, engaging shaft with opening in latch bellcrank.

- (2) Install cylinder retainer.
- (3) Install liftgate trim panel.

Latch

Removal

- (1) Remove liftgate trim panel.
- (2) Remove latch attaching screws using Torx Bit Tool J-25359-02 and remove latch (fig. 3H-2).

Installation

- (1) Install latch in liftgate.
- (2) Install latch attaching screws using Torx Bit Tool J-25359-02 and tighten screws to 45 inch-pounds (5.1 Nm) torque.
- (3) Install liftgate trim panel.

Striker

The striker (fig. 3H-2) provides a secure retention point for the latch and prevents movement of the liftgate. It consists of a threaded, tempered steel pin with a polyurethane sleeve for cushioned operation. Use Torx Bit Tool J-25359-02 for removal, installation or adjustment.

Adjustment

Lower striker to pull liftgate down more securely on rubber sealer. Raise striker if too much force is required to close liftgate.

NOTE: Latch must enter striker without shifting or binding liftgate in closed position.

- (1) Determine proper striker alignment.
- (2) Loosen and move striker to desired position.
- (3) Tighten striker to 52 foot-pounds (70.5 Nm) torque.
- (4) Apply lubricant to striker.

NOTE: Check to be sure that liftgate closes properly.

SUPPORT SYSTEM

Removal

- (1) Prop liftgate in full-open position.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-3 for specific instructions for disposal

- (2) Remove ball stud retainer (fig. 3H-2).
- (3) Pull support off ball stud attached to liftgate.
- (4) Remove lockpin and clevis pin attaching support to bracket. Remove support.

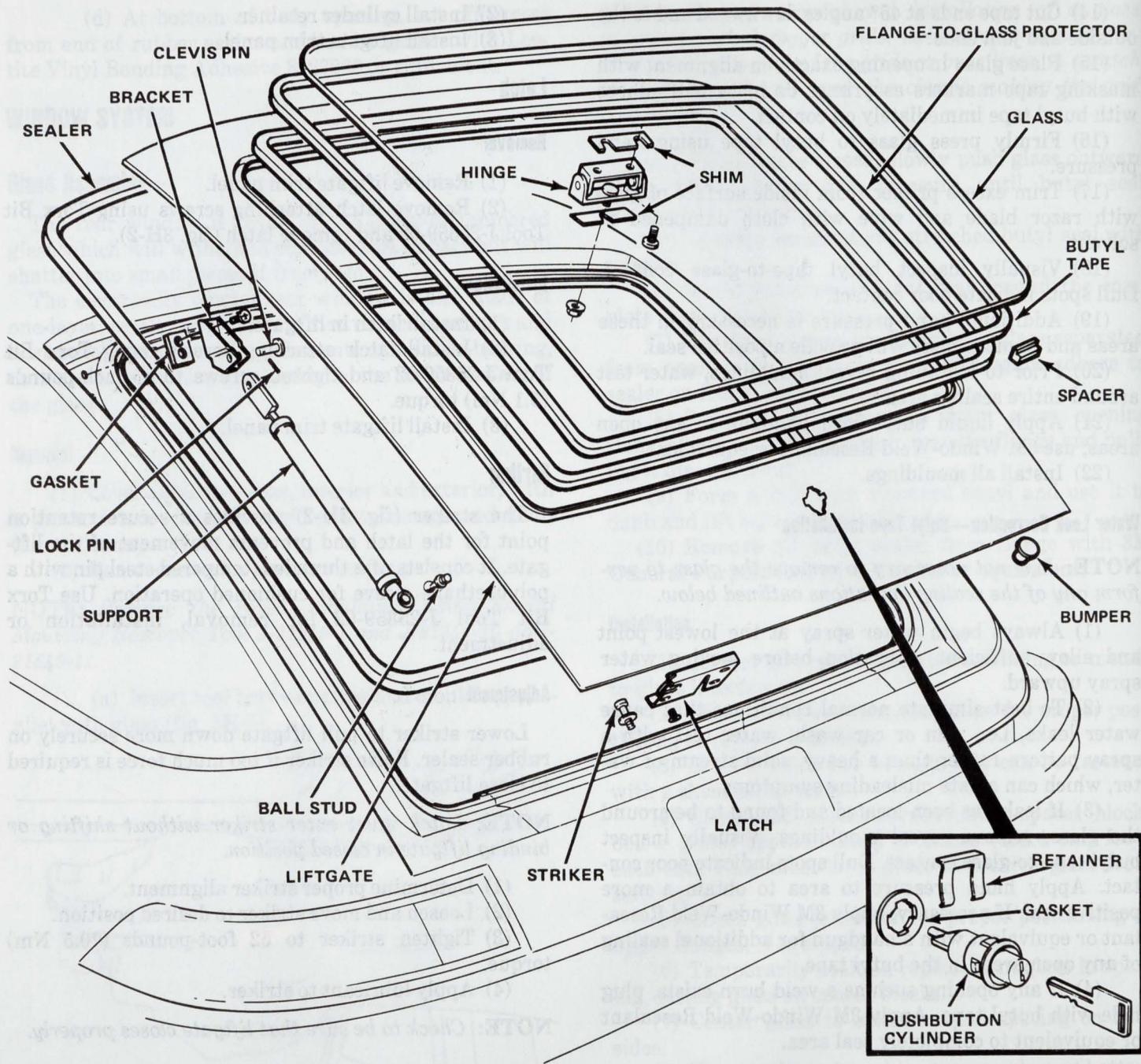


Fig. 3H-2 Pacer Hatchback Liftgate Components

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NOTE: If clevis pin will not clear drain trough, remove screws attaching bracket to body using Torx Bit Tool J-25359-02. Remove bracket and gasket from body and clevis pin from bracket.

Disposal Procedure for Gas-Operated Supports

For specific disposal instructions, refer to fig. 3H-3.

Installation

- (1) Position support in bracket and install clevis pin.

- (2) If bracket was removed above, position gasket and bracket on body and install attaching screws. Tighten screws to 70 inch-pounds (7.9 Nm) torque.
- (3) Secure clevis pin with lockpin.
- (4) Install support on liftgate ball stud and secure.

HINGE SYSTEM

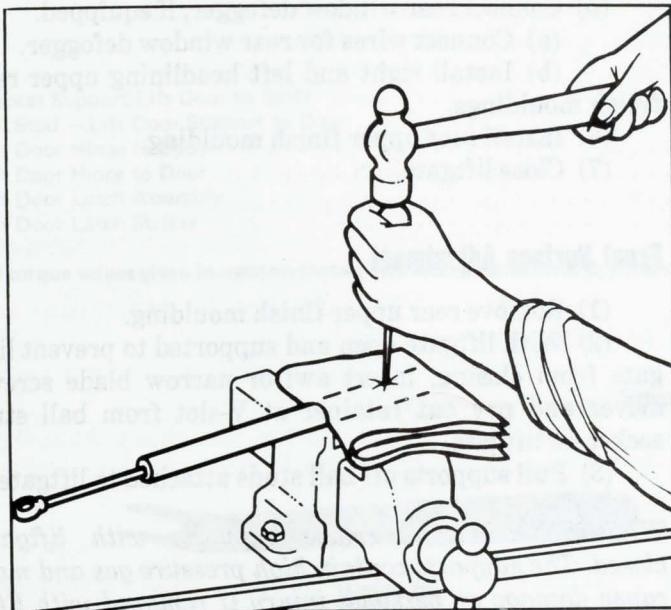
Removal

- (1) Open liftgate and support to prevent liftgate from closing.
- (2) Remove rear center finish moulding.

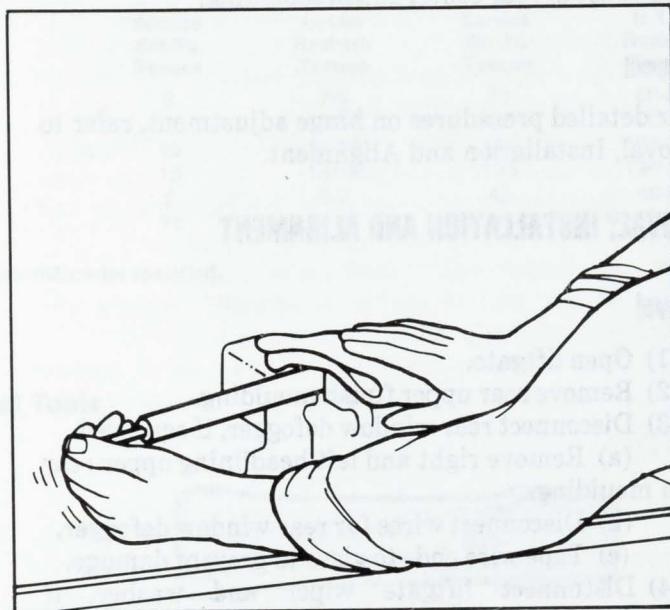
Refer to instructions in this Manual for removal and installation information. When removed, depressurize the support assembly as described below before discarding.

WARNING: PROTECTIVE EYE COVERING MUST BE WORN WHILE PERFORMING THE FOLLOWING STEPS.

1. Place support assembly horizontally in bench vise and tighten vise.
2. Place several layers (4 layers minimum) of shop towels or rags over end of cylinder in vise (View A).
3. Measure 1-1/2 inches in from fixed end of cylinder and, using a scratch awl or pointed center punch and hammer, drive awl or punch through the towel and into the cylinder until the gas begins to escape (View A).
4. Hold the towel and scratch awl in place until all gas has escaped (a few seconds). Then, slowly remove scratch awl. Escaping oil will be absorbed by the towel.
5. While still holding towel over hole, push bright shaft completely into black cylinder to purge remaining oil (View B).
6. Remove from vise and discard.



VIEW A



VIEW B

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Fig. 3H-3 Disposal Procedure for Gas-Operated Supports

- (3) Disconnect rear window defogger, if equipped.
 - (a) Remove right and left headlining upper rear finish mouldings.
 - (b) Disconnect wires for rear window defogger.
 - (c) Tape wire ends to glass to prevent damage.
- (4) Disconnect liftgate wiper and washer, if equipped.
 - (a) Remove liftgate trim panel.
 - (b) Disconnect wires from wiper motor.
 - (c) Attach string to wiper motor wires and remove wires from liftgate.

NOTE: String will be used to guide wires into position on installation.

- (d) Disconnect washer hose from nozzle tube.
- (5) Insert awl or narrow blade screwdriver and pry out retained at V-slot from ball stud socket on liftgate.
- (6) Pull supports off ball studs attached to liftgate.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may

cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to Figure 3H-3 for specific instructions for disposal.

(7) Close liftgate.

(8) Remove hinge-to-body nuts and keep shim pack with each hinge (fig. 3H-2).

(9) Open liftgate at leading edge and support with wooden blocks.

(10) Remove hinge-to-liftgate screws using Torx Bit Tool J-25359-02 and remove hinge(s). Keep hinge-to-liftgate shim packs with each hinge(s).

Installation

- (1) Position hinge(s) and shim pack on liftgate and install screws using Torx Bit Tool J-25359-02.
- (2) Tighten hinge-to-liftgate screws to 135 inch-pounds (15.3 Nm) torque.
- (3) Remove wooden blocks and position liftgate in body opening.

(4) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.

(5) Open liftgate and install supports and retainers.

(6) Connect liftgate wiper and washer, if equipped.

(a) Using string, pull wiper motor wires through liftgate and connect to wiper motor.

(b) Install liftgate trim panel.

(c) Connect washer hose to nozzle tube.

(7) Connect rear window defogger, if equipped.

(a) Connect wires for rear window defogger.

(b) Install right and left headlining upper rear finish mouldings.

(8) Install rear center finish moulding.

Adjustment

For detailed procedures on hinge adjustment, refer to Removal, Installation and Alignment.

REMOVAL, INSTALLATION AND ALIGNMENT

Removal

(1) Open liftgate.

(2) Remove rear upper finish moulding.

(3) Disconnect rear window defogger, if equipped.

(a) Remove right and left headlining upper rear finish mouldings.

(b) Disconnect wires for rear window defogger.

(c) Tape wire ends to glass to prevent damage.

(4) Disconnect liftgate wiper and washer, if equipped.

(a) Remove liftgate trim panel.

(b) Disconnect wires from wiper motor.

(c) Attach string to wiper motor wires and remove wires from liftgate.

NOTE: String will be used to guide wires into position on installation.

(d) Disconnect washer hose from nozzle tube.

(5) Insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.

(6) Pull supports off ball studs attached to liftgate.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-3 for specific disposal instructions.

(7) Close liftgate.

(8) Remove hinge-to-body nuts and keep shim pack with each hinge (fig. 3H-2).

(9) Press pushbutton cylinder releasing latch and remove liftgate.

Installation

(1) Position liftgate in body opening, engaging latch with striker.

(2) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.

(3) Open liftgate and install supports and retainers.

(4) Connect liftgate wiper and washer, if equipped.

(a) Using string, pull wiper motor wires through liftgate and connect to wiper motor.

(b) Install liftgate trim panel.

(c) Connect washer hose to nozzle tube.

(5) Connect rear window defogger, if equipped.

(a) Connect wires for rear window defogger.

(b) Install right and left headlining upper rear finish mouldings.

(6) Install rear upper finish moulding.

(7) Close liftgate.

Front Surface Adjustment

(1) Remove rear upper finish moulding.

(2) With liftgate open and supported to prevent liftgate from closing, insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.

(3) Pull supports off ball studs attached to liftgate.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-3 for specific disposal instructions.

(4) Close liftgate.

(5) Remove hinge-to-body nuts and keep shim pack with each hinge.

(6) Open liftgate at leading edge and support with wooden blocks.

(7) Loosen hinge-to-liftgate screws.

(8) Install or remove shims as required (between liftgate and hinge) to obtain desired gap (front-to-rear).

(9) Tighten hinge-to-liftgate screws to 135 inch-pounds (15.3 Nm) torque.

(10) Remove wooden blocks and position liftgate in body opening.

(11) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.

(12) Install rear upper finish moulding.

(13) Open liftgate and install supports and retainers.

(14) Adjust striker for proper opening and closing effort and alignment. Tighten striker to 52 foot-pounds (70.5 Nm) torque.

Rear Surface Adjustment

- (1) Remove striker.
- (2) Move liftgate rear surface down by placing wooden block on top of body opening drain trough and

carefully hammering trough downward. Move liftgate rear surface up by placing a wooden block under drain trough and carefully hammering trough upward.

- (3) Install and adjust striker for proper opening and closing effort and alignment. Tighten striker to 52 foot-pounds (70.5 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)	
Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Bracket Support Lift Door to Body	8	7-9	70
Ball Stud — Lift Door Support to Door	7	6-8	60
Lift Door Hinge to Body	15	15-18	135
Lift Door Hinge to Door	15	15-18	135
Lift Door Latch Assembly	5	5-7	45
Lift Door Latch Striker	71	54-81	52 ft-lbs.
			40-60 ft-lbs.

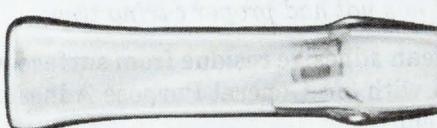
All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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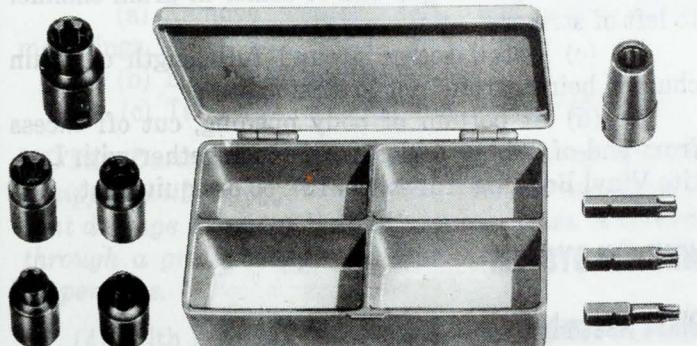
Special Tools



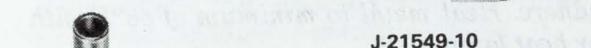
J-2631-01
TRIM PAD
DEPRESSOR



J-21549-1
HANDLE



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

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PACER WAGON LIFTGATE

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EXTERIOR MOULDINGS

Scuff Moulding Replacement

The scuff mouldings are made of extruded vinyl with an adhesive backing.

- (1) Use 3M Release Agent or equivalent to soften adhesive bond of moulding to panel.
 - (a) Using snorkel tube, spray a generous quantity between moulding and panel.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.
 - (c) Peel moulding from panel.
- (2) Attach end of string to liftgate panel where moulding is to be applied.
- (3) Run string at desired level along panel and attach at other end with tape.
- (4) Clean adhesive residue from surface with a cloth dampened with 3M General Purpose Adhesive Cleaner, or equivalent.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine whether solvent will damage the paint, test solvent on a hidden area of the car.

NOTE: Surface must be clean and dry for moulding to properly adhere. Heat metal to minimum of 68°F with heat gun or heat lamp.

- (5) Position mouldings on panel with backing tape and cut to desired length and shape with pruning shears or razor blade.
- (6) Peel backing and press moulding to panel of car parallel with string.
- (7) Press moulding to panel with roller or heavy hand pressure.
- (8) Remove string.
- (9) If moulding comes loose:
 - (a) Clean bonding surfaces with a cloth dampened in 3M General Purpose Adhesive Cleaner or equivalent.
 - (b) Apply Loctite Vinyl Bonding Adhesive 8127960, 3M Plastic and Emblem Adhesive or equivalent to moulding surfaces and press firmly to panel.

SEALING SYSTEM

Rubber Sealer

The rubber sealer is bonded to the drain channel and seals against the liftgate inner panel.

- #### Removal
- (1) Remove finish mouldings, if required.
 - (2) Rubber sealer is bonded to drain channel, use 3M Release Agent or equivalent to soften adhesive bond.
 - (a) Using snorkel tube, spray a generous quantity between rubber sealer and drain channel.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.
 - (c) Lift rubber sealer from drain channel before solvent evaporates and adhesive resets.
 - (d) Remove old adhesive from drain channel using 3M General Purpose Adhesive Cleaner or equivalent.

Installation

- (1) Remove protective powders from replacement rubber sealer with 3M General Purpose Adhesive Cleaner or equivalent.
- (2) Rubber sealer bonded installation:
 - (a) Apply 1/8-inch bead of 3M Weatherstrip Adhesive or equivalent in drain channel.
 - (b) Position one end of sealer in drain channel to left of striker.
 - (c) Install sealer around full length of drain channel being careful not to stretch sealer.
 - (d) At bottom of body opening, cut off excess from end of rubber sealer and bond together with Loctite Vinyl Bonding Adhesive 8127960 or equivalent.

WINDOW SYSTEM

Glass Assembly

The rear window is made of one layer of tempered glass which will withstand considerable impact but will shatter into small pieces if fractured.

The electrically heated rear window is also made of one-layer, tempered glass with two vertical bus bars and horizontal rows of heating elements of a silver-bearing, ceramic-enamel compound baked to the inside surface of the glass.

Removal

(1) Cover adjacent areas, interior and exterior, with a protective covering to avoid paint damage and additional cleanup.

(2) Remove exterior reveal mouldings.

NOTE: Remove the reveal mouldings using Reveal Moulding Remover Tool J-21549-1 and J-21549-10 or J-21549-11.

(a) Insert tool between glass and moulding, parallel with glass (fig. 3H-4).

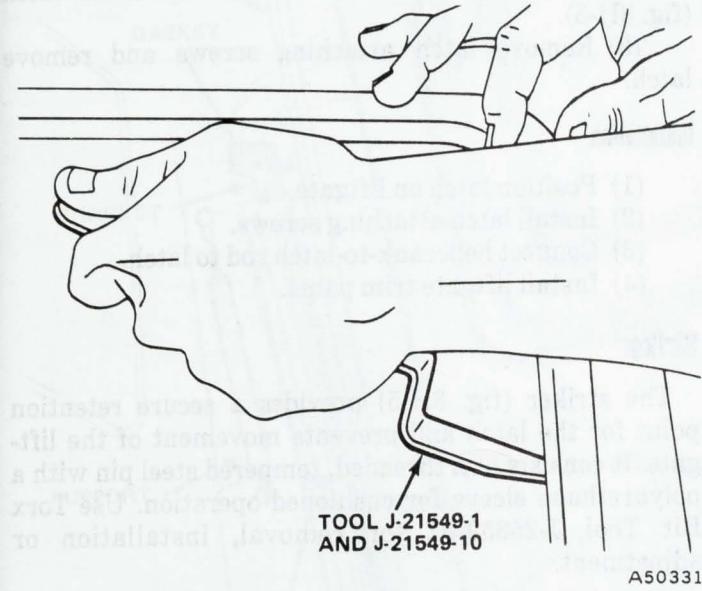


Fig. 3H-4 Removing Reveal Moulding

(b) Pry mouldings from clips with a rolling action.

(3) On cars equipped with electrically heated rear windows, disconnect feed wire and ground wire connections as described below:

(a) Remove center, left, and right finish mouldings.

(b) Disconnect wires.

(c) Tape wire leads to inside surface of glass.

NOTE: During removal and installation of a glass equipped with defogger grids, use extreme care to prevent damage to any of the grids or buss lines. A scratch through a grid will open the circuit making the grid inoperative.

(4) With liftgate closed, slowly push glass outward along top applying foot pressure until butyl seal stretches 1 to 2 inches.

(5) Have an assistant cut stretched butyl seal with scissors.

(6) Apply pressure and cut seal around the complete glass with razor knife.

(7) Use wood spacer blocks to keep glass separated from opening as sealer on glass will again adhere to sealer on flange upon contact.

(8) Remove all butyl tape from glass opening flanges by grasping the sealer near the flange and pulling it directly away.

(9) Form a ball with removed butyl and use it to daub and lift off remaining butyl.

(10) Remove all butyl sealer from flange with 3M General Purpose Adhesive Cleaner or equivalent.

Installation

(1) Correct all previously noted moulding or metal-to-glass interference.

(2) Check all reveal moulding clips for proper positioning or replace if broken.

(3) If weld studs are broken, clip can be fastened with a sheet metal screw.

(4) Check and position two rubber spacer blocks below glass, approximately 6 inches (152.4 cm) from each end. They must be in place to prevent glass from settling.

(5) Check glass protector for proper positioning on upper flanges, if equipped.

(6) Temporarily position replacement glass in opening, setting glass on spacer blocks.

(7) Center glass to achieve equal spacing on both sides.

(8) Place a piece of masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact locating when permanently installing glass. Cut tape below glass, and remove glass and place on a padded bench.

(9) Clean pinchweld flange and glass thoroughly. Glass and flange must be clean and dry.

(10) Apply a very thin uniform coat of butyl tape primer 1/2-inch wide on the flange and glass (including edge) and allow it to dry for a minimum of 10 minutes.

(11) Apply butyl tape to pinchweld flange, starting midway up the left side flush with edge of the flange.

(12) When using a service replacement butyl tape kit, equipped with an integral sponge rubber filler, the filler must be flush with edge of flange.

(13) Strip off paper liner as tape is being applied.

(14) Cut tape ends at 45° angles downward and to the outside and join ends.

(15) Place glass in opening exactly in alignment with masking tape markers as primer on glass will adhere with butyl tape immediately on contact.

(16) Firmly press glass to butyl tape using hand pressure.

(17) Trim excess primer from inside surface of glass with razor blade and wipe with cloth dampened in solvent.

(18) Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact.

(19) Additional hand pressure is necessary in these areas and in most cases will provide a positive seal.

(20) Prior to installing reveal mouldings, water test around entire sealing area.

- (21) Apply liquid butyl with handgun to any open areas, such as 3M Windo-Weld Resealant, or equivalent.
- (22) Install all mouldings.

Water Leak Correction—Butyl Tape Installation

NOTE: It is not necessary to remove the glass to perform any of the sealing operations outlined below.

(1) Always begin water spray at the lowest point and allow sufficient saturation before moving water spray upward.

(2) To best simulate normal conditions that cause water leaks, i.e., rain or car wash, water test with a spray pattern rather than a heavy, solid stream of water, which can create misleading symptoms.

(3) If leak has been located and found to be around the glass, remove reveal mouldings. Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact. Apply hand pressure to area to obtain a more positive seal. If necessary, apply 3M Windo-Weld Resealant or equivalent with a handgun for additional sealing of any open areas in the butyl tape.

(4) If any opening such as a weld burn exists, plug hole with butyl tape. Apply 3M Windo-Weld Resealant or equivalent to completely seal area.

LOCK SYSTEM

Pushbutton Cylinder

NOTE: Replacement pushbutton cylinders are furnished coded with two keys.

Removal

- (1) Remove liftgate trim panel.
- (2) Remove cylinder retainer, pushbutton cylinder and gasket (fig. 3H-5).

Installation

(1) Position replacement gasket on pushbutton cylinder and insert into liftgate panel, engaging shaft with opening in latch bellcrank.

(2) Install cylinder retainer.

(3) Install liftgate trim panel.

Bellcrank

Removal

- (1) Remove liftgate trim panel.
- (2) Disconnect bellcrank to latch rod from bellcrank (fig. 3H-5).
- (3) Remove screws attaching bellcrank to liftgate and remove bellcrank.

Installation

(1) Position bellcrank on liftgate and install attaching screws.

- (2) Connect bellcrank to latch rod to bellcrank.
- (3) Install liftgate trim panel.

Latch

Removal

- (1) Remove liftgate trim panel.
- (2) Disconnect bellcrank-to-latch rod from latch (fig. 3H-5).
- (3) Remove latch attaching screws and remove latch.

Installation

- (1) Position latch on liftgate.
- (2) Install latch attaching screws.
- (3) Connect bellcrank-to-latch rod to latch.
- (4) Install liftgate trim panel.

Striker

The striker (fig. 3H-5) provides a secure retention point for the latch and prevents movement of the liftgate. It consists of a threaded, tempered steel pin with a polyurethane sleeve for cushioned operation. Use Tork Bit Tool J-25359-02 for removal, installation or adjustment.

Adjustment

Lower striker to pull liftgate down more securely on rubber sealer. Raise striker if too much force is required to close liftgate.

NOTE: Latch must enter striker without shifting or binding liftgate in closed position.

- (1) Determine proper striker alignment.
- (2) Loosen and move striker to desired position.
- (3) Tighten striker to 52 foot-pounds (70.5 Nm) torque.
- (4) Apply lubricant to striker.

NOTE: Check to be sure that liftgate closes properly.

SUPPORT SYSTEM

Removal

- (1) Prop liftgate in full-open position.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-6 for specific instructions for disposal.

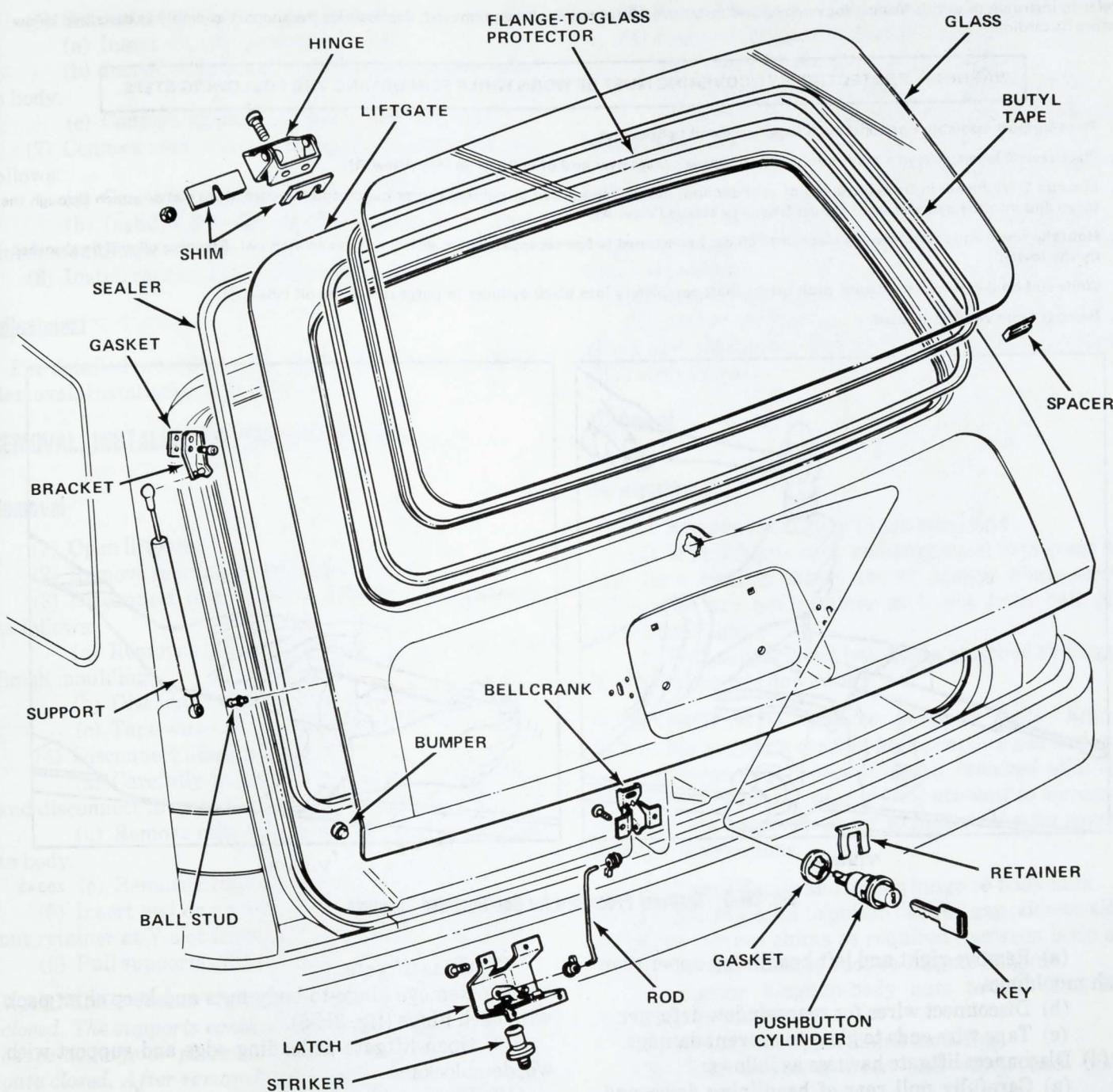


Fig. 3H-5 Pacer Wagon Liftgate Components

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- (2) Insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (3) Pull support off ball studs attached to liftgate and body bracket.

Disposal Procedure for Gas-Operated Supports

For specific disposal instructions, refer to fig. 3H-6.

Installation

- (1) Install support on ball studs attached to liftgate and body bracket.

- (2) Install retainers securing support ball sockets to ball studs.

HINGE SYSTEM

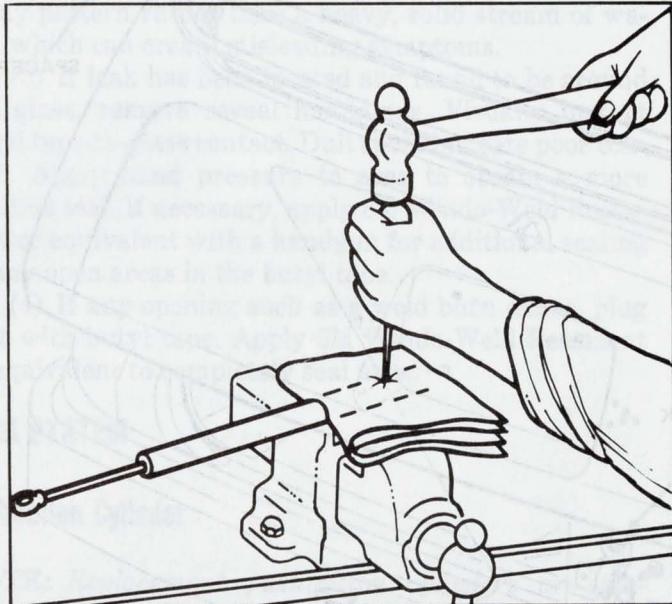
Removal

- (1) Open liftgate and support to prevent liftgate from closing.
- (2) Remove rear center finish moulding.
- (3) Disconnect rear window defogger, if equipped, as follows:

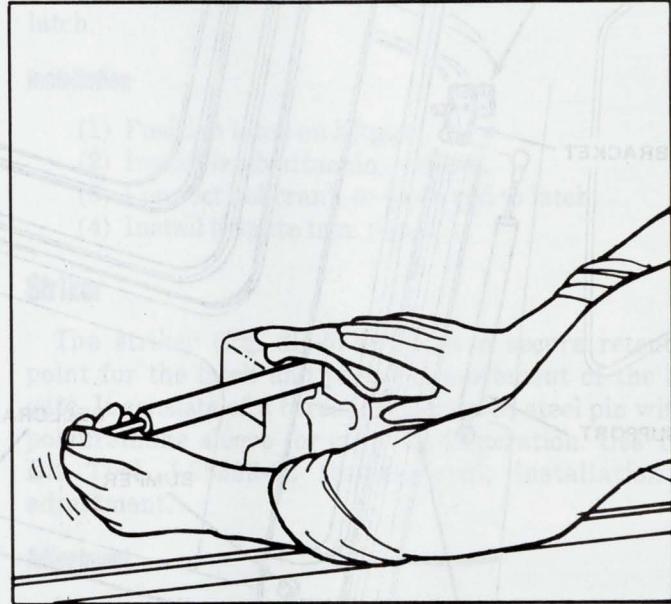
Refer to instructions in this Manual for removal and installation information. When removed, depressurize the support assembly as described below before discarding.

WARNING: PROTECTIVE EYE COVERING MUST BE WORN WHILE PERFORMING THE FOLLOWING STEPS.

1. Place support assembly horizontally in bench vise and tighten vise.
2. Place several layers (4 layers minimum) of shop towels or rags over end of cylinder in vise (View A).
3. Measure 1-1/2 inches in from fixed end of cylinder and, using a scratch awl or pointed center punch and hammer, drive awl or punch through the towel and into the cylinder until the gas begins to escape (View A).
4. Hold the towel and scratch awl in place until all gas has escaped (a few seconds). Then, slowly remove scratch awl. Escaping oil will be absorbed by the towel.
5. While still holding towel over hole, push bright shaft completely into black cylinder to purge remaining oil (View B).
6. Remove from vise and discard.



VIEW A



VIEW B

Fig. 3H-6 Disposal Procedure for Gas-Operated Supports

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- (a) Remove right and left headlining upper rear finish mouldings.
- (b) Disconnect wires for rear window defogger.
- (c) Tape wire ends to glass to prevent damage.
- (4) Disconnect liftgate harness as follows:
 - (a) Carefully pull rear of headlining down and disconnect liftgate harness from body harness.
 - (b) Remove nuts attaching liftgate harness tube to body.
 - (c) Remove liftgate harness from body.
- (5) Insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (6) Pull supports off ball studs attached to liftgate.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-6 for specific instructions for disposal.

- (7) Close liftgate.
- (8) Remove hinge-to-body nuts and keep shim pack with each hinge (fig. 3H-5).
- (9) Open liftgate at leading edge and support with wooden blocks.
- (10) Remove hinge-to-liftgate screws using Torx Bit Tool J-25359-02 and remove hinge(s). Keep hinge-to-liftgate shim pack with each hinge(s).

Installation

- (1) Position hinge(s) and shim pack on liftgate and install screws using Torx Bit Tool J-25359-02.
- (2) Tighten hinge-to-liftgate screws to 135 inch-pounds (15.3 Nm) torque.
- (3) Remove wooden blocks and position liftgate in body opening.
- (4) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.
- (5) Open liftgate and install supports and retainers.

- (6) Connect liftgate harness as follows:
 - (a) Insert liftgate harness into body.
 - (b) Install nuts attaching liftgate harness tube to body.
 - (c) Connect liftgate harness to body harness.
- (7) Connect rear window defogger, if equipped, as follows:
 - (a) Connect wires for rear window defogger.
 - (b) Install right and left headlining upper rear finish mouldings.
- (8) Install rear center finish moulding.

Adjustment

For detailed procedures on hinge adjustment, refer to Removal, Installation and Alignment.

REMOVAL, INSTALLATION AND ALIGNMENT

Removal

- (1) Open liftgate.
- (2) Remove rear upper finish moulding.
- (3) Disconnect rear window defogger, if equipped, as follows:
 - (a) Remove right and left headlining upper rear finish mouldings.
 - (b) Disconnect wires for rear window defogger.
 - (c) Tape wire ends to glass to prevent damage.
- (4) Disconnect liftgate harness.
 - (a) Carefully pull down rear edge of headlining and disconnect liftgate harness from body harness.
 - (b) Remove nuts attaching liftgate harness tube to body.
 - (c) Remove liftgate harness from body.
- (5) Insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (6) Pull supports off ball studs attached to liftgate.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-6 for specific disposal instructions.

- (7) Close liftgate.
- (8) Remove hinge-to-body nuts and keep shim pack with each hinge (fig. 3H-5).
- (9) Press pushbutton cylinder releasing latch and remove liftgate.

Installation

- (1) Position liftgate in body opening engaging latch with striker.
- (2) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.

- (3) Open liftgate and install supports and retainers.
- (4) Connect liftgate harness as follows:
 - (a) Insert liftgate harness into body.
 - (b) Connect liftgate harness to body harness.
 - (c) Position liftgate harness tube on body and install attaching nuts.
- (5) Connect rear window defogger, if equipped, as follows:
 - (a) Connect wires for rear window defogger.
 - (b) Install right and left headlining upper rear finish mouldings.
- (6) Install rear upper finish moulding.
- (7) Adjust striker for proper opening and closing effort and alignment. Tighten striker to 52 foot-pounds (70.5 Nm) torque.

Alignment

Gap Adjustment

- (1) Remove rear upper finish moulding.
- (2) With liftgate open and supported to prevent liftgate from closing, insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (3) Pull supports off ball studs attached to liftgate and fold supports downward.
- WARNING:** Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-6 for specific disposal instructions.
- (4) Close liftgate and loosen hinge-to-body nuts.
- (5) Shift liftgate to obtain desired gap (side-to-side). Install or remove shims as required (between body and hinge) to obtain desired roof-to-liftgate height.
- (6) Tighten hinge-to-body nuts to 135 (15.3 Nm) inch-pounds torque.
- (7) Install rear upper finish moulding.
- (8) Place supports over ball studs and install retainers.
- (9) Adjust striker for proper opening and closing effort and alignment. Tighten striker to 52 foot-pounds (70.5 Nm) torque.

Front Surface Adjustment

- (1) Remove rear upper finish moulding.
- (2) With liftgate open and supported to prevent liftgate from closing, insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (3) Pull supports off ball studs attached to liftgate.
- WARNING:** Never remove supports with liftgate closed. The supports contain high pressure gas and may

cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-6 for specific disposal instructions.

- (4) Close liftgate.
- (5) Remove hinge-to-body nuts and keep shim pack with each hinge.
- (6) Open liftgate at leading edge and support with wooden blocks.
- (7) Loosen hinge-to-liftgate screws.
- (8) Install or remove shims as required (between liftgate and hinge) to obtain desired gap (front-to-rear).

(9) Tighten hinge-to-liftgate screws to 135 inch-pounds (15.3 Nm) torque.

(10) Remove wooden blocks and position liftgate in body opening.

(11) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.

(12) Install rear upper finish moulding.

(13) Open liftgate and install supports and retainers.

(14) Adjust striker for proper opening and closing effort and alignment. Tighten striker to 52 foot-pounds (70.5 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Bracket Support Lift Door to Body	8	7-9	70	60-80
Ball Stud — Lift Door Support to Door	7	6-8	60	50-75
Lift Door Hinge to Body	15	15-18	135	130-160
Lift Door Hinge to Door	15	15-18	135	130-160
Lift Door Latch Assembly	5	5-7	45	40-60
Lift Door Latch Striker	71	54-81	52 ft-lbs.	40-60 ft-lbs.

All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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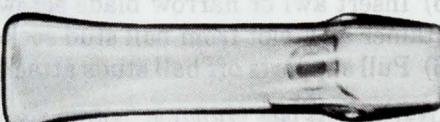
Special Tools



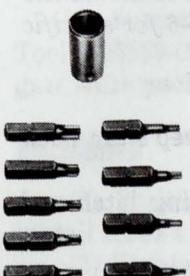
J-2631-01
TRIM PAD
DEPRESSOR



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-1
HANDLE



J-21549-10
CLIP REMOVER



J-21549-11
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GREMLIN LIFTGATE

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EXTERIOR MOULDINGS

Liftgate Moulding Repair

The Liftgate Moulding Repair Kit 8128184 or equivalent can be used to adhere the Gremlin liftgate moulding to the glass in the event they become separated.

(1) Scrape away dirt and loose adhesive with a razor blade. Clean/flush area of separation (fig. 3H-7) with AM Fabric Cleaner or trichloroethane. Allow cleaner to dry completely or blow dry with compressed air.

CAUTION: Do not allow AM Fabric Cleaner or trichloroethane to come in contact with any painted surface. These cleaning solvents may damage the painted surface.

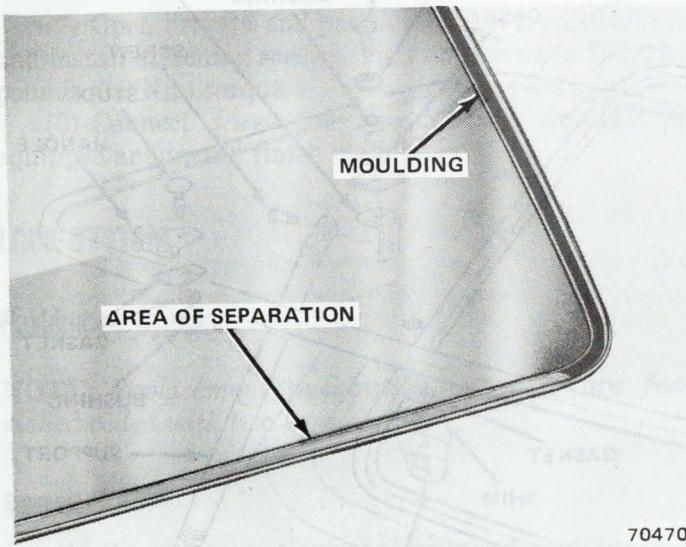


Fig. 3H-7 Area of Moulding Separation from Glass

(2) Apply a liberal amount of Loctite 423 Activator, with brush top, between glass and moulding.

(3) Allow activator to dry completely or blow dry with compressed air.

NOTE: Activator will turn white and powdery when dry.

(4) Using applicator and needle, apply Loctite 312 Adhesive between glass and moulding as shown in figure 3H-8.

NOTE: Temperature of glass should be between 65°F and 85°F when performing repair.

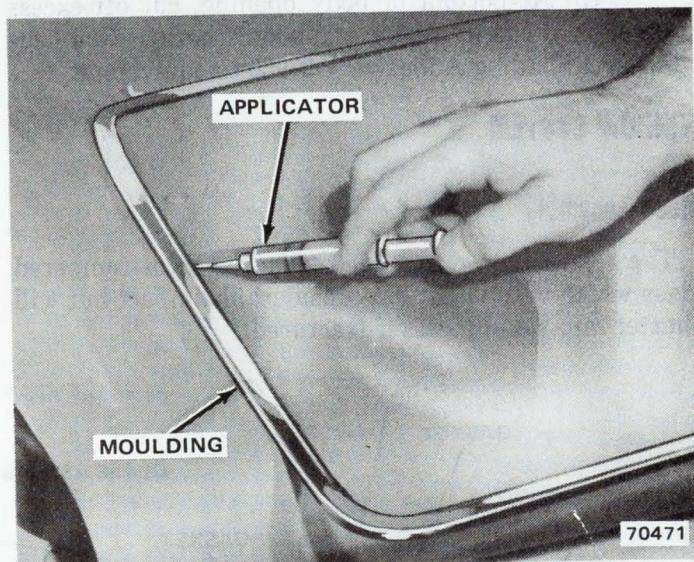


Fig. 3H-8 Applying Loctite 312 with Applicator

(5) Using wood spring-type clothes pins, clamp moulding to glass. Inspect adhesive for complete bond. Adjust clamps as necessary to eliminate voids and air pockets.

(6) Allow adhesive to set-up for at least 30 minutes before removing clamps.

NOTE: Loctite 312 is an anaerobic adhesive that cures only in the absence of air, excess adhesive appearing outside of moulding and exposed to the air will not cure.

(7) Using AM Fabric Cleaner or trichloroethane, remove excess adhesive from glass and exterior of moulding.

SEALING SYSTEM

Rubber Sealer

The rubber sealer is attached to the pinchweld flange by spring tension in the rear body opening and seals against the liftgate inner surface.

Removal

(1) Remove finish mouldings, if required.

(2) Rubber sealer is attached to pinchweld flange by spring tension, pull rubber sealer from pinchweld flange around window opening.

Installation

(1) Remove protective powders from replacement rubber sealer with 3M General Purpose Adhesive Cleaner or equivalent.

(2) Rubber sealer spring tension installation:

(a) Start at top of body opening and place rubber sealer spring tension groove over pinchweld flange and press into position.

(b) At bottom of body opening, cut off excess from ends of rubber sealer and bond together with Loc-tite Vinyl Bonding Adhesive 8127960 or equivalent.

WINDOW SYSTEM**Glass Assembly**

The rear window is made of one layer of tempered glass which will withstand considerable impact but will shatter into small pieces if fractured.

The electrically heated rear window is also made of one-layer, tempered glass with two vertical bus bars and horizontal rows of heating elements of a silver-bearing, ceramic-enamel compound baked to the inside surface of the glass.

Removal

(1) Remove upper center and corner finish mouldings.

(2) Open liftgate to relieve tension of supports.

WARNING: To prevent damage or injury, never disconnect or remove supports when the liftgate is closed. The supports are under spring tension.

(3) Remove support to liftgate bracket screws (fig. 3H-9) and fold supports downward.

(4) Disconnect wires for rear window defogger, if equipped and tape wire ends to glass to prevent damage.

(5) Close liftgate and engage latch.

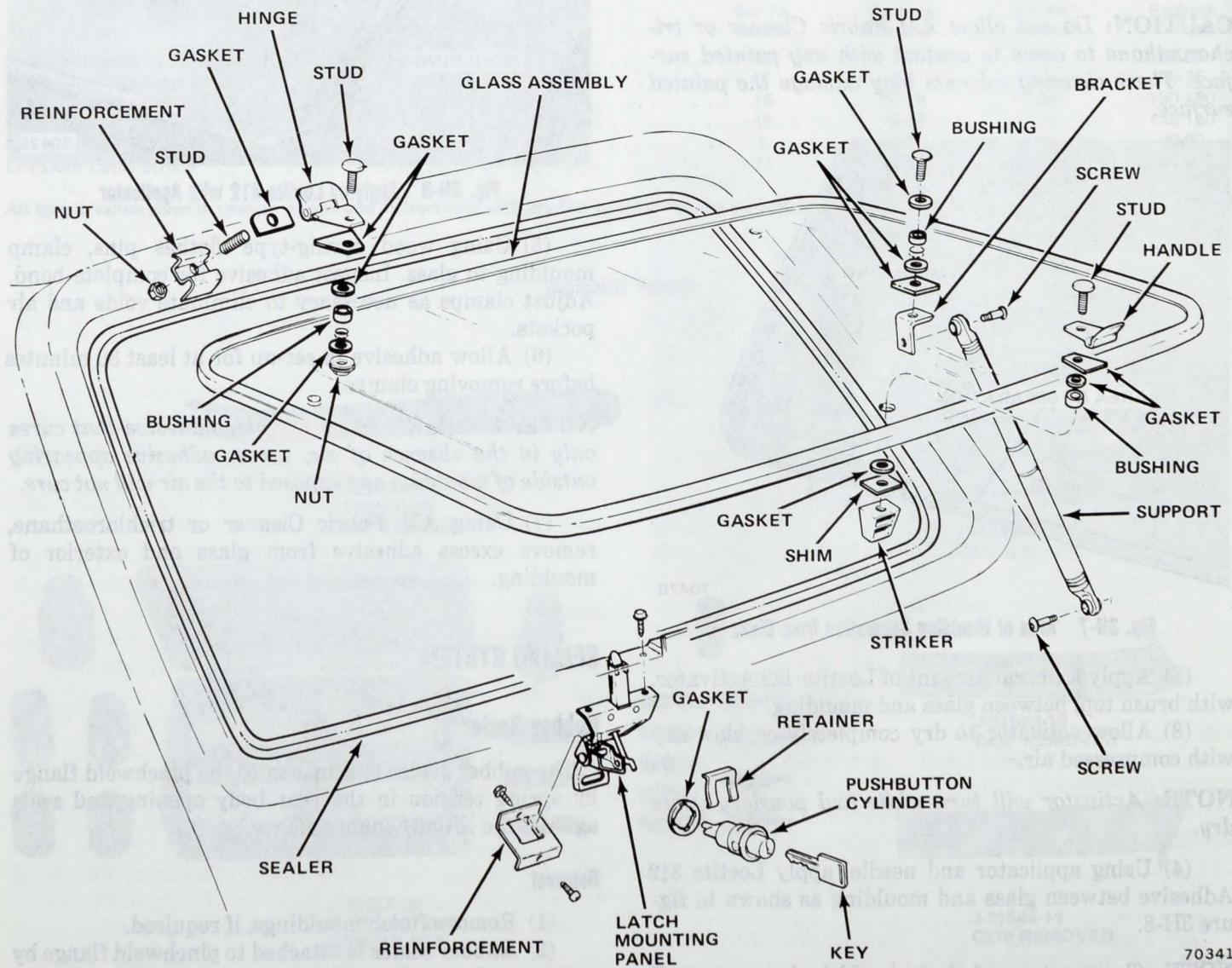


Fig. 3H-9 Gremlin Liftgate Components

(6) Remove nuts, gaskets and bushings attaching glass assembly to hinge studs.

(7) Remove studs from hinges.

(8) Release latch and carefully remove glass assembly from car.

(9) Place glass assembly on a clean protected bench.

(10) Remove striker, shim(s), gaskets, bushing, handle and stud from glass.

(11) Remove support brackets, gaskets, bushings and studs from glass.

Installation

(1) Install stud, handle, gaskets, bushing, shim(s) and striker on glass assembly.

(2) Install studs, bushings, gaskets and support brackets on glass assembly.

(3) Position glass assembly in body opening and engage latch.

(4) Install studs in hinges.

(5) Position gaskets between hinges and glass.

(6) Install bushings, gaskets and nuts attaching hinges to glass.

NOTE: Before tightening hinge attaching nuts, ensure hinge pins are in-line.

(7) Open liftgate and position supports on brackets and install attaching screws. Tighten screws to 70 inch-pounds (7.9 Nm) torque.

(8) Connect wires for rear window defogger if equipped and install finish mouldings.

LOCK SYSTEM

Pushbutton Cylinder

NOTE: Replacement pushbutton cylinders are furnished coded with two keys.

Removal

(1) Remove spare tire and right rear floor filler.

(2) Remove rear trim panel.

(3) Remove cylinder retainer, pushbutton cylinder, and gasket (fig. 3H-9).

Installation

(1) Position replacement pushbutton cylinder and gasket in rear panel engaging shaft with opening in latch bellcrank.

(2) Install cylinder retainer.

(3) Install liftgate trim panel.

(4) Install right rear floor filler and spare tire.

Latch Mounting Panel

Removal

(1) Remove spare tire and right rear floor filler.

(2) Remove rear trim panel.

(3) Remove pushbutton cylinder.

(4) Remove screws attaching latch mounting panel and reinforcement to rear center panel.

(5) Remove latch mounting panel and reinforcement.

Installation

(1) Position latch mounting panel and reinforcement in rear center panel and install attaching screws. Tighten screws to 55 inch-pounds (6.2 Nm) torque.

(2) Install pushbutton cylinder.

(3) Install rear trim panel.

(4) Install right rear floor filler and spare tire.

Latch Adjustment

(1) Remove spare tire and right rear floor filler.

(2) Remove rear trim panel.

(3) Drive out roll pin with 1/16-inch drift.

(4) Turn latch bolt clockwise to lower and counter-clockwise to raise.

NOTE: Latch bolt must contact striker at midpoint of bevel. Beveled edge must face striker.

(5) Install roll pin.

(6) Install rear trim panel.

(7) Install right rear floor filler and spare tire.

Latch Striker Tension Adjustment

To Relieve Tension

(1) Remove latch striker (fig. 3H-9).

(2) Install additional rubber shim between striker gasket and glass.

(3) Install striker and check effort required to open latch.

To Increase Tension

(1) Remove shim, if equipped, between striker gasket and glass.

(2) If not equipped with shim, place wooden block under pinchweld flange and carefully hammer pinchweld outward.

CAUTION: There must be a gasket between striker and glass to prevent glass breakage.

SUPPORT SYSTEM**Removal**

WARNING: Never remove supports with liftgate closed. The supports are under spring tension and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports.

- (1) Prop liftgate in full-open position.
- (2) Remove screws attaching support (fig. 3H-9) to liftgate bracket and body bracket. Remove support.

Installation

- (1) Position support on liftgate bracket and body bracket and install attaching screws.
- (2) Tighten screws to 70 inch-pounds (7.9 Nm) torque.

HINGE SYSTEM**Removal**

- (1) Remove headlining upper center and corner finish mouldings.
- (2) Open liftgate to relieve spring tension of supports (fig. 3H-9).
- (3) Remove support to liftgate bracket attaching screws and fold supports downward.

WARNING: Never remove supports with liftgate closed. The supports are under spring tension and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports.

- (4) Close liftgate and engage latch.
- (5) Carefully lower rear edge of headlining and remove nut(s) from hinge stud(s).
- (6) Remove hinge reinforcement(s) from body.
- (7) Remove nut(s), gaskets and stud(s) attaching hinge(s) to glass assembly.

NOTE: Do not remove or lose bushing(s) installed in glass opening(s).

- (8) Remove hinge(s) and gasket(s) from body.

Installation

- (1) Position replacement gasket(s) on hinge(s) and insert stud(s) into body holes.

- (2) Install liftgate hinge reinforcement(s) on stud(s).
- (3) Install nut(s) on stud(s) and tighten to 115 inch-pounds (13.0 Nm) torque.
- (4) Position replacement gaskets on outside surface of glass, between glass and hinge, and insert stud(s) through hinge(s) and bushing(s) into glass.
- (5) On inside surface of glass, install gasket(s) and nut(s) attaching hinge(s) to glass.
- (6) Open liftgate and install screws attaching supports to brackets. Tighten screws to 70 inch-pounds (7.9 Nm) torque.
- (7) Install finish mouldings.

REMOVAL, INSTALLATION AND ALIGNMENT**Removal**

- (1) Remove upper center and corner headlining finish mouldings.
- (2) Open liftgate to relieve spring tension of supports.
- (3) Remove support to liftgate screws and fold supports downward.

WARNING: Never remove supports with liftgate closed. The supports are under spring tension and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports.

- (4) Close liftgate and engage latch.
- (5) Carefully lower headlining and remove nut from hinge studs (fig. 3H-9). Remove hinge reinforcements.
- (6) Disconnect wires for rear window defogger, if equipped, and tape wire ends to glass to prevent damage.
- (7) Remove liftgate assembly.

Installation

- (1) Set liftgate assembly in opening.
- (2) Place rubber gaskets on hinges and insert studs into holes.
- (3) Install liftgate hinge reinforcements on studs.
- (4) Install nuts on studs and tighten to 115 inch-pounds (12.9 Nm) torque.
- (5) Connect wires for rear window defogger, if equipped, and install finish mouldings.
- (6) Position supports on liftgate brackets and install attaching screws. Tighten screws to 70 inch-pounds (7.9 Nm) torque.

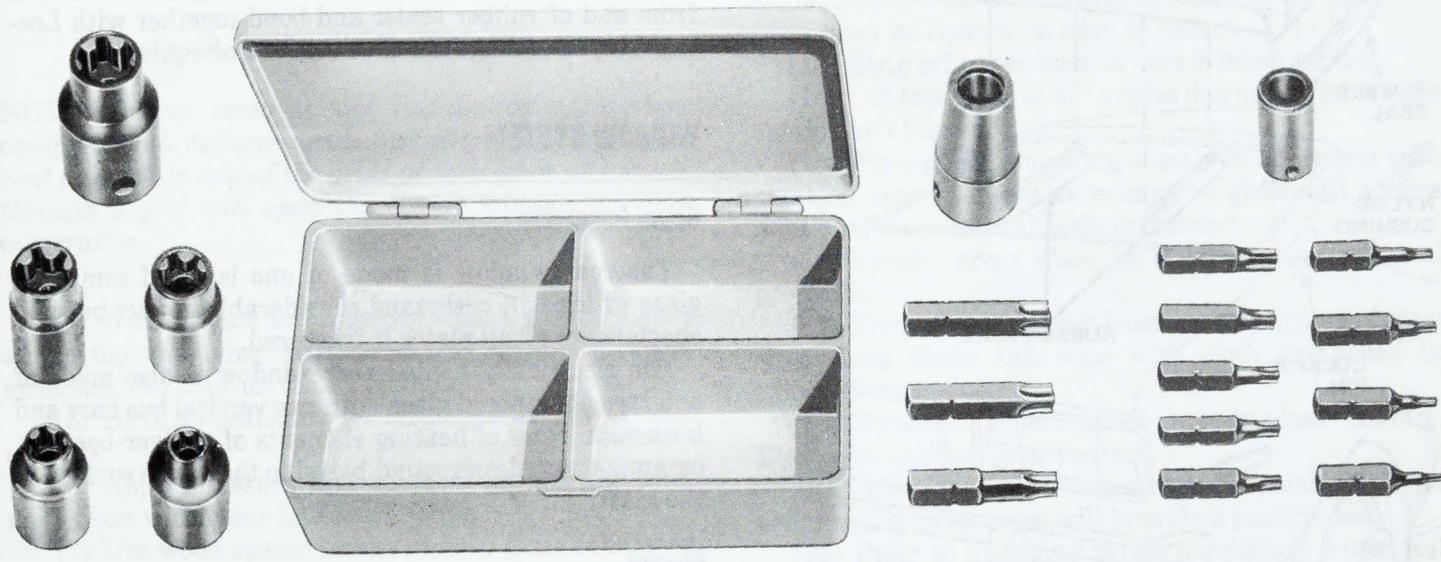
SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Lift Window Hinge to Body - Gremlin	13	9-18	115	80-160
Bracket Lift Door Window Support to Body - Gremlin	8	7-10	70	60-90
Support Assembly to Lift Window and Body - Gremlin	8	7 min.	70	65 min.

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All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

Special Tools

J-25359-02
TORX BIT AND
SOCKET SET

50404A

CONCORD—AMX HATCHBACK LIFTGATE

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EXTERIOR MOULDINGS**Metal Mouldings**

All metal mouldings are attached with clips; however, some mouldings are also attached with sheet metal screws.

Replacement

- (1) Remove sheet metal screws attaching moulding to panel, if equipped.
- (2) Pry moulding off clips using fiber or wooden stick.

- (3) Remove moulding clips.
- (4) Install replacement moulding clips.
- (5) Position moulding over clips and press into place.
- (6) Install sheet metal screws attaching moulding to panel, if equipped.

LOUVER ASSEMBLY

The louver assembly on the AMX is constructed of aluminum. The louver assembly (fig. 3H-10) is positioned by a center hinge on the upper part and with two pegs on the lower part. The two pegs are held in place by hold-down pins and are retained by lanyards to prevent loss.

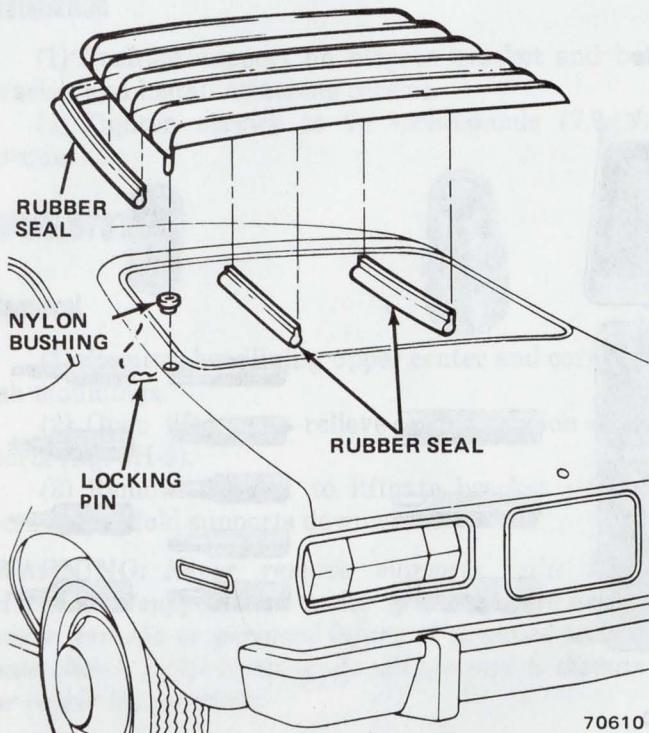


Fig. 3H-10 Louver Assembly Components

SEALING SYSTEM

Rubber Sealer

The rubber sealer is bonded to the drain channel in the rear body opening and seals against the liftgate inner panel.

Removal

- (1) Remove finish mouldings, if required.
- (2) Rubber sealer is bonded to drain channel. Use 3M Release Agent or equivalent to soften adhesive bond.
 - (a) Using snorkel tube, spray a generous quantity between rubber sealer and drain channel.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.

- (c) Lift rubber sealer from drain channel before solvent evaporates and adhesive resets.
- (d) Remove old adhesive from drain channel using 3M General Purpose Adhesive Cleaner or equivalent.

Installation

- (1) Remove protective powders from replacement rubber sealer with 3M General Purpose Adhesive Cleaner or equivalent.
- (2) Rubber sealer bonded installation:
 - (a) Apply 1/8-inch bead of 3M Weatherstrip Adhesive or equivalent in drain channel.
 - (b) Position one end of sealer in drain channel to left of striker.
 - (c) Install sealer around full length of drain channel being careful not to stretch sealer.
 - (d) At bottom of body opening, cut off excess from end of rubber sealer and bond together with Loc-tite Vinyl Bonding Adhesive 8127960 or equivalent.

WINDOW SYSTEM

Glass Assembly

The rear window is made of one layer of tempered glass which will withstand considerable impact but will shatter into small pieces if fractured.

The electrically heated rear window is also made of one-layer, tempered glass with two vertical bus bars and horizontal rows of heating elements of a silver-bearing, ceramic-enamel compound baked to the inside surface of the glass.

Removal

- (1) Cover adjacent areas, interior and exterior, with a protective covering to avoid paint damage and additional cleanup.
- (2) Remove exterior reveal mouldings.

NOTE: Remove the reveal mouldings using Reveal Moulding Remover Tool J-21549-1 and J-21549-10 or J-21549-11.

- (a) Insert tool between glass and moulding, parallel with glass (fig. 3H-11).
- (b) Pry mouldings from clips with a rolling action.
- (3) On cars equipped with electrically heated rear windows, disconnect feed wire and ground wire connections as described below:
 - (a) Remove center, left, and right finish mouldings.
 - (b) Disconnect wires.
 - (c) Tape wire leads to inside surface of glass.

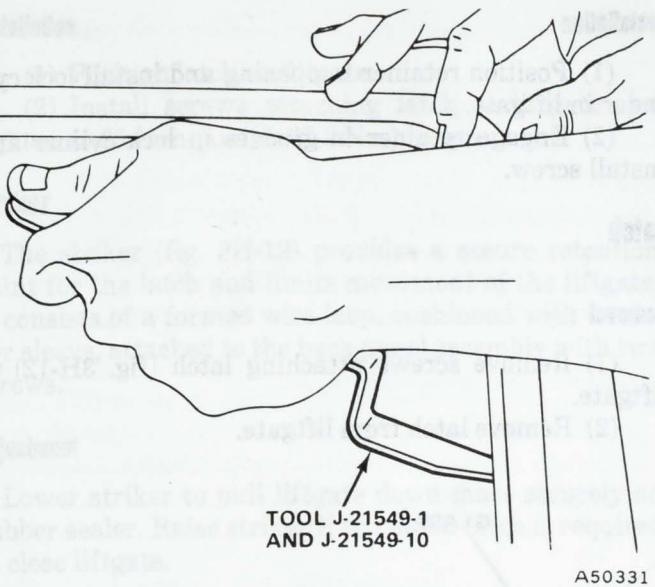


Fig. 3H-11 Removing Reveal Moulding

NOTE: During removal and installation of a glass equipped with defogger grids, use extreme care to prevent damage to any of the grids or buss lines. A scratch through a grid will open the circuit making the grid inoperative.

(4) With liftgate closed, slowly push glass outward along top, applying foot pressure until butyl seal stretches 1 to 2 inches (25.4 to 50.8 cm).

(5) Have an assistant cut stretched butyl seal with scissors.

(6) Apply pressure and cut seal around the complete glass with razor knife.

(7) Use wood spacer blocks to keep glass separated from opening as sealer on glass will again adhere to sealer on flange upon contact.

(8) Remove all butyl tape from glass opening flanges by grasping the sealer near the flange and pulling it directly away.

(9) Form a ball with removed butyl and use it to daub and lift off remaining butyl.

(10) Remove all butyl sealer from flange with 3M General Purpose Adhesive Cleaner or equivalent.

Installation

(1) Correct all previously noted moulding or metal-to-glass interference.

(2) Check all reveal moulding clips for proper positioning or replace if broken.

(3) If weld studs are broken, clip can be fastened with a sheet metal screw.

(4) Check and position two rubber spacer blocks below glass, approximately 6 inches (152.4 cm) from each end. They must be in place to prevent glass from settling.

(5) Check glass protector for proper positioning on upper flanges, if equipped.

(6) Temporarily position replacement glass in opening, setting glass on spacer blocks.

(7) Center glass to achieve equal spacing on both sides.

(8) Place a piece of masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact locating when permanently installing glass. Cut tape below glass, and remove glass and place on a padded bench.

(9) Clean pinchweld flange and glass thoroughly. Glass and flange must be clean and dry.

(10) Apply a very thin uniform coat of butyl tape primer 1/2-inch wide on the flange and glass (including edge) and allow it to dry for a minimum of 10 minutes.

(11) Apply butyl tape to pinchweld flange, starting midway up the left side flush with edge of the flange.

(12) When using a service replacement butyl tape kit, equipped with an integral sponge rubber filler, the filler must be flush with edge of flange.

(13) Strip off paper liner as tape is being applied.

(14) Cut tape ends at 45° angles downward and to the outside and join ends.

(15) Place glass in opening exactly in alignment with masking tape markers as primer on glass will adhere with butyl tape immediately on contact.

(16) Firmly press glass to butyl tape using hand pressure.

(17) Trim excess primer from inside surface of glass with razor blade and wipe with cloth dampened in solvent.

(18) Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact.

(19) Additional hand pressure is necessary in these areas and in most cases will provide a positive seal.

(20) Prior to installing reveal mouldings, water test around entire sealing area.

(21) Apply liquid butyl with handgun to any open areas, such as 3M Windo-Weld Resealant or equivalent.

(22) Install all mouldings.

Water Leak Correction—Butyl Tape Installation

NOTE: It is not necessary to remove the glass to perform any of the sealing operations outlined below.

(1) Always begin water spray at the lowest point and allow sufficient saturation before moving water spray upward.

(2) To best simulate normal conditions that cause water leaks, i.e., rain or car wash, water test with a spray pattern rather than a heavy, solid stream of water, which can create misleading symptoms.

(3) If leak has been located and found to be around the glass, remove reveal mouldings. Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact. Apply hand pressure to area to obtain a more positive seal. If necessary, apply 3M Windo-Weld Resealant or equivalent with a handgun for additional sealing of any open areas in the butyl tape.

(4) If any opening such as a weld burn exists, plug hole with butyl tape. Apply 3M Windo-Weld Resealant or equivalent to completely seal area.

LOCK SYSTEM

Lock Cylinder

Removal

- (1) Remove screw attaching retainer.
- (2) Pull retainer from grooves in lock cylinder and remove retainer (fig. 3H-12).
- (3) Remove lock cylinder.

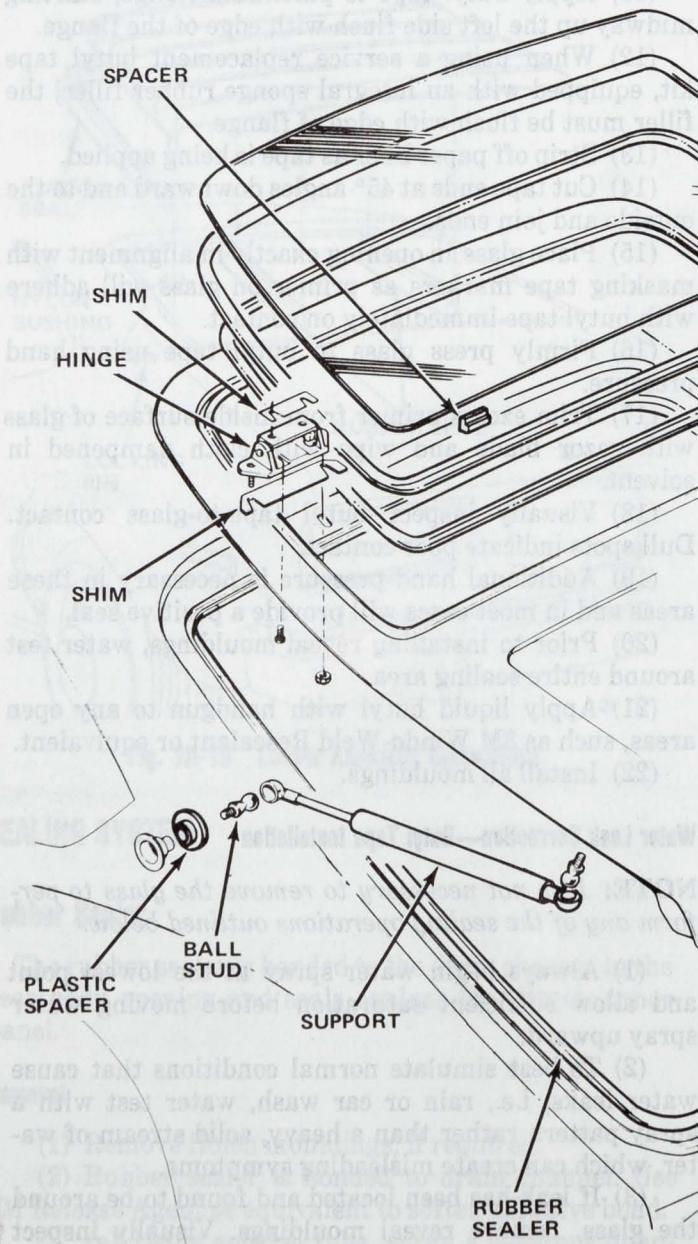


Fig. 3-12 Concord-AMX Hatchback Liftgate Components

Installation

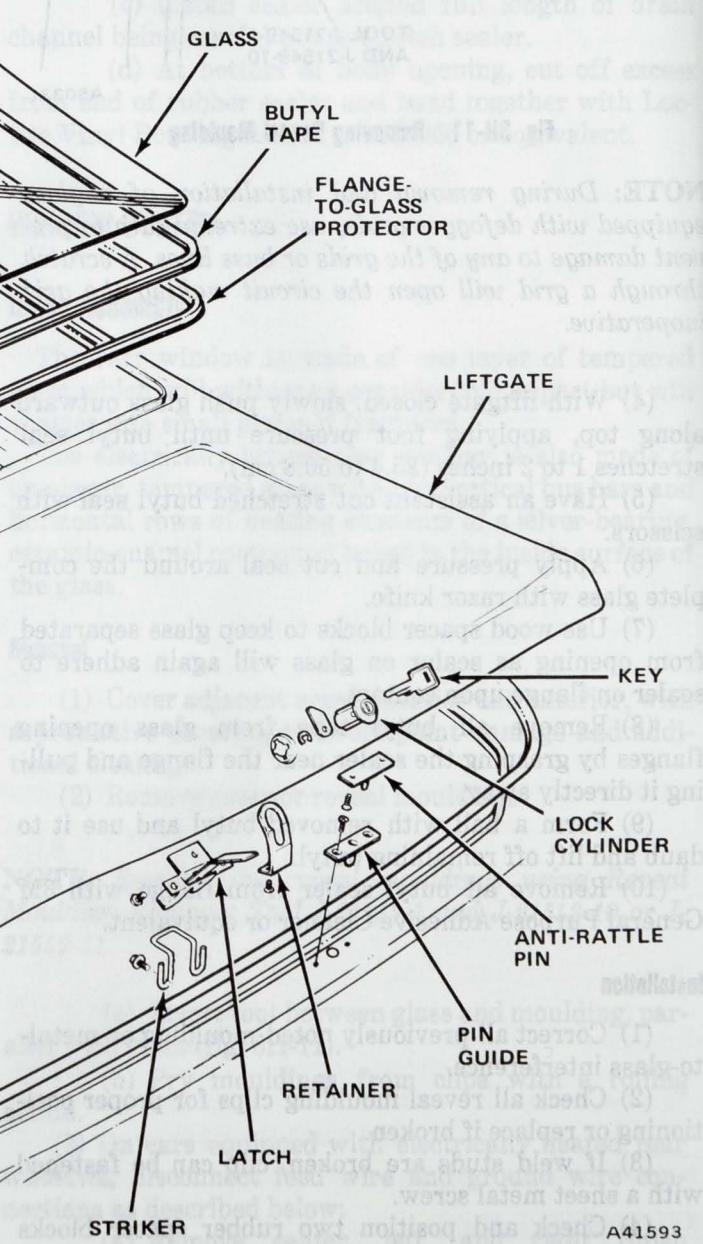
(1) Position retainer in opening and install lock cylinder in liftgate.

(2) Engage retainer in grooves in lock cylinder and install screw.

Latch

Removal

- (1) Remove screws attaching latch (fig. 3H-12) to liftgate.
- (2) Remove latch from liftgate.



Installation

- (1) Position latch on liftgate.
- (2) Install screws attaching latch to liftgate and tighten to 65 inch-pounds (7.3 Nm) torque.

Striker

The striker (fig. 3H-12) provides a secure retention point for the latch and limits movement of the liftgate. It consists of a formed wire loop, cushioned with a rubber sleeve, attached to the back panel assembly with two screws.

Adjustment

Lower striker to pull liftgate down more securely on rubber sealer. Raise striker if too much force is required to close liftgate.

NOTE: *Latch must enter striker without shifting or binding liftgate in closed position.*

- (1) Determine proper striker alignment.
- (2) Remove anti-rattle pin from liftgate.
- (3) Loosen attaching screws and move striker to desired position.
- (4) Tighten striker attaching screws to 110 inch-pounds (12.4 Nm) torque.
- (5) Install anti-rattle pin and adjust for proper fit into pin guide. Tighten screws to 25 inch-pounds (2.8 Nm) torque.
- (6) Apply lubricant to striker and anti-rattle pin.

NOTE: *Check to be sure that liftgate closes properly.*

SUPPORT SYSTEM**Removal**

- (1) Prop liftgate in full-open position.

WARNING: *Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-13 for specific instructions for disposal.*

- (2) Insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (3) Pull support off ball studs attached to liftgate and body.

Disposal Procedure for Gas-Operated Supports

For specific disposal instructions, refer to fig. 3H-13.

Installation

- (1) Install support on ball studs attached to liftgate and body.

- (2) Install retainers attaching support ball sockets to ball studs.

HINGE SYSTEM**Removal**

- (1) Open liftgate.
- (2) Remove rear upper finish moulding.
- (3) Disconnect rear window defogger, if equipped. Tape ends to glass to prevent damage.
- (4) Insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (5) Pull supports off ball studs attached to liftgate.

WARNING: *Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-13 for specific instructions for disposal.*

- (6) Remove hinge-to-body nuts. Maintain shim pack with each hinge (fig. 3H-12).
- (7) Raise liftgate at front edge and support with wooden blocks.
- (8) Remove hinge-to-liftgate screws using Torx Bit Tool J-25359-02 and remove hinge. Maintain hinge-to-liftgate shims.

Installation

- (1) Position hinge and shim pack on liftgate and install screws. Tighten hinge-to-liftgate screws to 135 inch-pounds (15.3 Nm) torque.
- (2) Remove wooden blocks and position liftgate in body opening.
- (3) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.
- (4) Check alignment.
- (5) Connect wires for rear window defogger, if equipped.
- (6) Install rear upper finish moulding.
- (7) Raise liftgate, install supports and retainers.

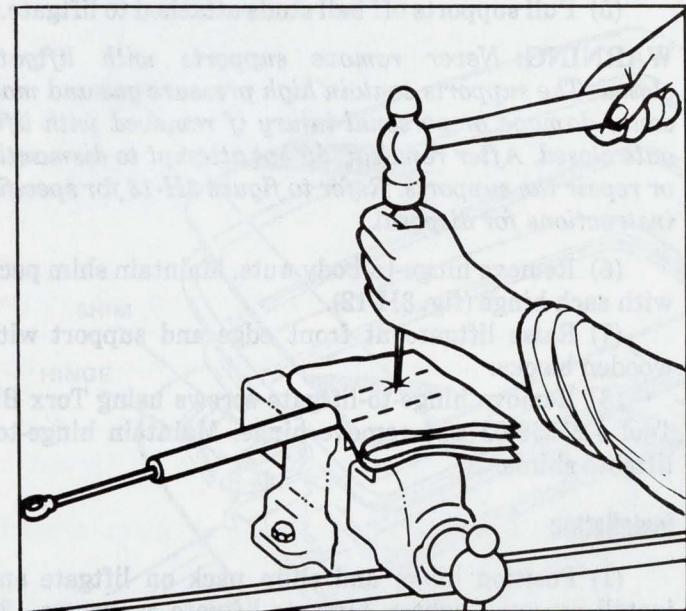
REMOVAL, INSTALLATION AND ALIGNMENT**Removal**

- (1) Open liftgate.
- (2) Remove rear upper finish moulding.
- (3) Disconnect rear window defogger, if equipped, as follows:
 - (a) Remove right and left headlining upper rear finish mouldings.
 - (b) Disconnect wires for rear window defogger.

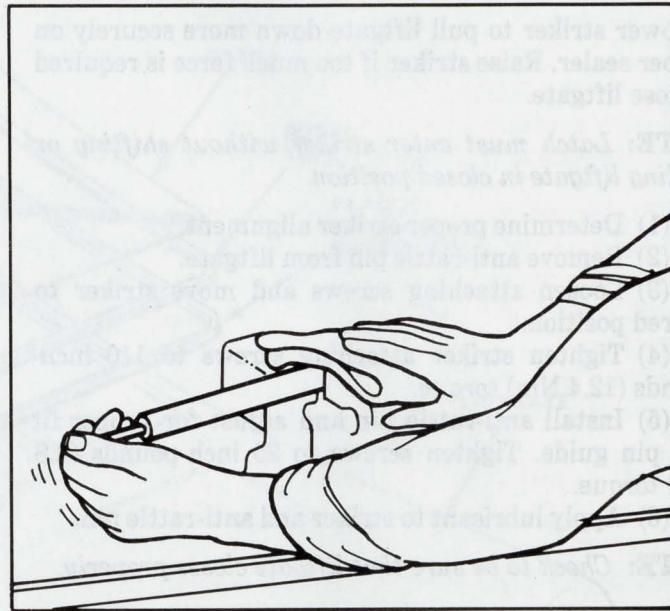
Refer to instructions in this Manual for removal and installation information. When removed, depressurize the support assembly as described below before discarding.

WARNING: PROTECTIVE EYE COVERING MUST BE WORN WHILE PERFORMING THE FOLLOWING STEPS.

1. Place support assembly horizontally in bench vise and tighten vise.
2. Place several layers (4 layers minimum) of shop towels or rags over end of cylinder in vise (View A).
3. Measure 1-1/2 inches in from fixed end of cylinder and, using a scratch awl or pointed center punch and hammer, drive awl or punch through the towel and into the cylinder until the gas begins to escape (View A).
4. Hold the towel and scratch awl in place until all gas has escaped (a few seconds). Then, slowly remove scratch awl. Escaping oil will be absorbed by the towel.
5. While still holding towel over hole, push bright shaft completely into black cylinder to purge remaining oil (View B).
6. Remove from vise and discard.



VIEW A



VIEW B

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Fig. 3H-13 Disposal Procedure for Gas-Operated Supports

- (c) Tape wire ends to glass to prevent damage.
- (4) Insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (5) Pull supports off ball studs attached to liftgate.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-13 for specific disposal instructions.

- (6) Close liftgate.
- (7) Remove hinge-to-body nuts and keep shim pack with each hinge (fig. 3H-12).
- (8) Turn lock cylinder releasing latch and remove liftgate.

Installation

- (1) Position liftgate in body opening, engaging latch with striker.
- (2) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.
- (3) Open liftgate and install supports and retainers.
- (4) Connect rear window defogger, if equipped, as follows:
 - (a) Connect wires for rear window defogger.
 - (b) Install right and left headlining upper rear finish mouldings.
- (5) Install rear upper finish moulding.
- (6) Adjust anti-rattle pin for proper fit into pin guide. Tighten screws to 25 inch-pounds (2.8 Nm) torque.
- (7) Adjust striker for proper opening and closing effort and alignment with sealer. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

Alignment**Side Gap Adjustment**

- (1) Remove anti-rattle pin and striker.
- (2) Remove rear upper finish moulding.
- (3) With liftgate open, insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.
- (4) Pull supports off ball studs attached to liftgate and fold supports downward.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-13 for specific disposal instructions.

- (5) Loosen hinge-to-body nuts.
- (6) Shift liftgate to obtain desired gap (side-to-side). Install or remove desired number of shims between body and hinge to obtain desired front edge to roof height.
- (7) Tighten hinge-to-body nuts to 135 inch-pounds (15.3 Nm) torque.
- (8) Install rear upper finish moulding.
- (9) Place supports over ball studs and install retainers.
- (10) Install anti-rattle pin and adjust for proper fit into pin guide. Tighten screws to 25 inch-pounds (2.8 Nm) torque.
- (11) Install and adjust striker for proper opening and closing effort and alignment with sealer. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

Front Gap Adjustment

- (1) Remove rear upper finish moulding.
- (2) With liftgate open, insert awl or narrow blade screwdriver and pry out retainer at V-slot from ball stud socket on liftgate.

- (3) Pull supports off ball studs attached to liftgate and close liftgate.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-13 for specific disposal instructions.

- (4) Disconnect rear window defogger, if equipped, and tape wires to glass.
- (5) Remove hinge-to-body nuts and maintain shim packs with each hinge.
- (6) Raise liftgate at front edge and support with wooden blocks.
- (7) Loosen hinge-to-liftgate screws using Torx Bit Tool J-25359-02.
- (8) Install or remove desired number of shims between liftgate and hinge to obtain desired gap (front-to-rear).
- (9) Tighten hinge-to-liftgate screws to 135 inch-pounds (15.3 Nm) torque.
- (10) Remove wooden blocks and position liftgate in body opening.
- (11) Position hinge-to-body shim packs with hinges and install nuts. Tighten nuts to 135 inch-pounds (15.3 Nm) torque.
- (12) Connect rear window defogger wires, if equipped.
- (13) Install rear upper finish moulding.
- (14) Raise liftgate and install supports and retainers.
- (15) Adjust anti-rattle pin for proper fit into pin guide. Tighten screws to 25 inch-pounds (2.8 Nm) torque.
- (16) Adjust striker for proper opening and closing effort and alignment with sealer. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

SPECIFICATIONS**Torque Specifications**

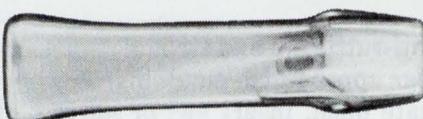
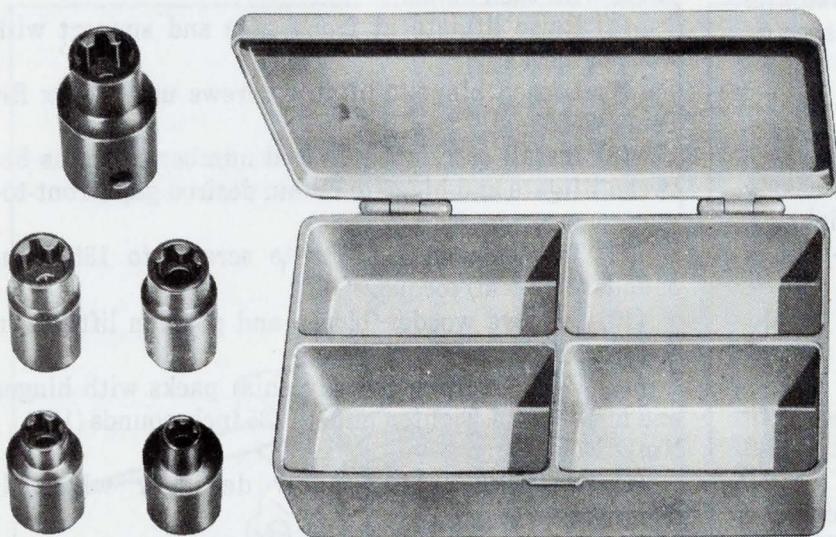
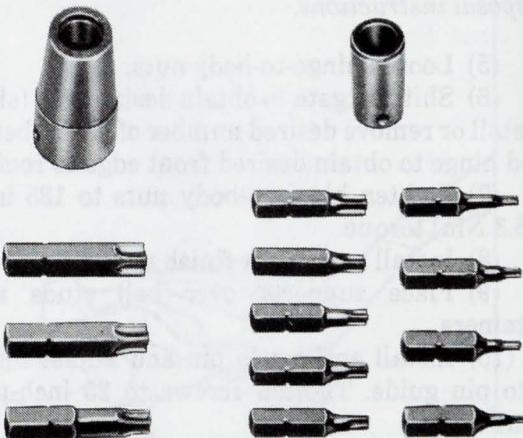
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)
Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque
Lift Door Hinge to Body and Door	15	135
Lift Gate Support — Ball Stud	7	60

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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Special Tools

J-2631-01
TRIM PAD
DEPRESSORJ-21549-1
HANDLEJ-21549-10
CLIP REMOVERJ-21549-11
CLIP REMOVERJ-25359-02
TORX BIT AND SOCKET SET**CONCORD WAGON LIFTGATE**

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SEALING SYSTEM**Rubber Sealer**

The rubber sealer is bonded to the drain channel in the rear body opening and seals against the liftgate inner panel.

Removal

- (1) Remove finish mouldings, if required.
- (2) Rubber sealer is bonded to drain channel, use 3M Release Agent, or equivalent, to soften adhesive bond.

(a) Using snorkel tube, spray a generous quantity between rubber sealer and drain channel.

(b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.

(c) Lift rubber sealer from drain channel before solvent evaporates and adhesive resets.

(d) Remove old adhesive from drain channel using 3M General Purpose Adhesive Cleaner or equivalent.

Installation

- (1) Remove protective powders from replacement rubber sealer with 3M General Purpose Adhesive Cleaner or equivalent.

(2) Rubber sealer bonded installation:

(a) Apply 1/8-inch bead of 3M Weatherstrip Adhesive or equivalent in drain channel.

(b) Position one end of sealer in drain channel to left of striker.

(c) Install sealer around full length of drain channel being careful not to stretch sealer.

(d) At bottom of body opening, cut off excess from end of rubber sealer and bond together with Loc-tite Vinyl Bonding Adhesive 8127960 or equivalent.

WINDOW SYSTEM**Glass Assembly**

The rear window is made of one layer of tempered glass which will withstand considerable impact but will shatter into small pieces if fractured.

The electrically heated rear window is also made of one-layer, tempered glass with two vertical bus bars and horizontal rows of heating elements of a silver-bearing, ceramic-enamel compound baked to the inside surface of the glass.

Removal

(1) Cover adjacent areas, interior and exterior, with a protective covering to avoid paint damage and additional cleanup.

(2) Remove exterior reveal mouldings.

NOTE: Remove the reveal mouldings using Reveal Moulding Remover Tool J-21549-1 and J-21549-10 or J-21549-11.

(a) Insert tool between glass and moulding, parallel with glass (fig. 3H-14).

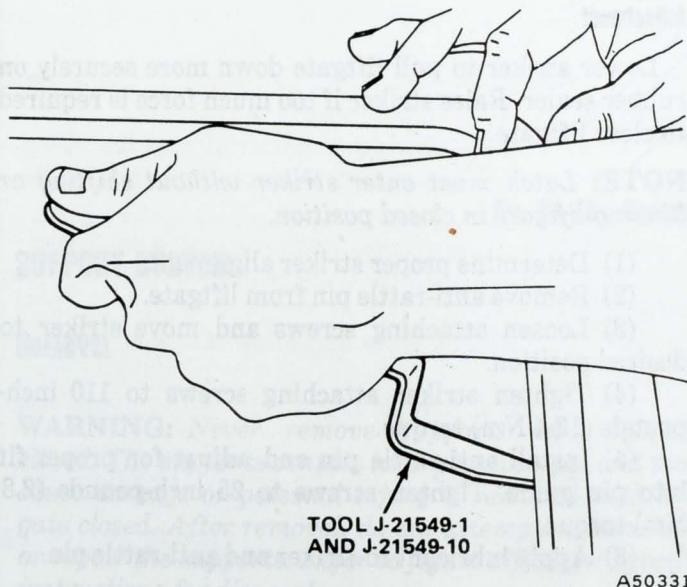


Fig. 3H-14 Removing Reveal Moulding

(b) Pry mouldings from clips with a rolling action.

(3) On cars equipped with electrically heated rear windows, disconnect feed wire and ground wire connections as described below:

(a) Remove center, left, and right finish mouldings.

(b) Disconnect wires.

(c) Tape wire leads to inside surface of glass.

NOTE: During removal and installation of a glass equipped with defogger grids, use extreme care to prevent damage to any of the grids or buss lines. A scratch through a grid will open the circuit making the grid inoperative.

(4) With liftgate closed, slowly push glass outward along top, applying foot pressure until butyl seal stretches 1 to 2 inches (25.4 to 50.8 cm).

(5) Have an assistant cut stretched butyl seal with scissors.

(6) Apply pressure and cut seal around the complete glass with razor knife.

(7) Use wood spacer blocks to keep glass separated from opening as sealer on glass will again adhere to sealer on flange upon contact.

(8) Remove all butyl tape from glass opening flanges by grasping the sealer near the flange and pulling it directly away.

(9) Form a ball with removed butyl and use it to daub and lift off remaining butyl.

(10) Remove all butyl sealer from flange with 3M General Purpose Adhesive Cleaner or equivalent.

Installation

(1) Correct all previously noted moulding or metal-to-glass interference.

(2) Check all reveal moulding clips for proper positioning or replace if broken.

(3) If weld studs are broken, clip can be fastened with a sheet metal screw.

(4) Check and position two rubber spacer blocks below glass, approximately 6 inches (152.4 cm) from each end. They must be in place to prevent glass from settling.

(5) Check glass protector for proper positioning on upper flanges, if equipped.

(6) Temporarily position replacement glass in opening, setting glass on spacer blocks.

(7) Center glass to achieve equal spacing on both sides.

(8) Place a piece of masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact locating when permanently installing glass. Cut tape below glass, and remove glass and place on a padded bench.

(9) Clean pinchweld flange and glass thoroughly. Glass and flange must be clean and dry.

(10) Apply a very thin uniform coat of butyl tape primer 1/2-inch wide on the flange and glass (including edge) and allow it to dry for a minimum of 10 minutes.

(11) Apply butyl tape to pinchweld flange, starting midway up the left side flush with edge of the flange.

(12) When using a service replacement butyl tape kit, equipped with an integral sponge rubber filler, the filler must be flush with edge of flange.

(13) Strip off paper liner as tape is being applied.

(14) Cut tape ends at 45° angles downward and to the outside and join ends.

(15) Place glass in opening exactly in alignment with masking tape markers as primer on glass will adhere with butyl tape immediately on contact.

(16) Firmly press glass to butyl tape using hand pressure.

(17) Trim excess primer from inside surface of glass with razor blade and wipe with cloth dampened in solvent.

(18) Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact.

(19) Additional hand pressure is necessary in these areas and in most cases will provide a positive seal.

(20) Prior to installing reveal mouldings, water test around entire sealing area.

(21) Apply liquid butyl with handgun to any open areas. Use 3M Windo-Weld Resealant or equivalent.

(22) Install all mouldings.

Water Leak Correction—Butyl Tape Installation

NOTE: It is not necessary to remove the glass to perform any of the sealing operations outlined below.

(1) Always begin water spray at the lowest point and allow sufficient saturation before moving water spray upward.

(2) To best simulate normal conditions that cause water leaks, i.e., rain or car wash, water test with a spray pattern rather than a heavy, solid stream of water, which can create misleading symptoms.

(3) If leak has been located and found to be around the glass, remove reveal mouldings. Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact. Apply hand pressure to area to obtain a more positive seal. If necessary, apply 3M Windo-Weld Resealant or equivalent with a handgun for additional sealing of any open areas in the butyl tape.

(4) If any opening such as a weld burn exists, plug hole with butyl tape. Apply 3M Windo-Weld Resealant or equivalent to completely seal area.

LOCK SYSTEM

Lock Cylinder

Removal

(1) Remove screw attaching retainer.

(2) Pull retainer from grooves in lock cylinder and remove retainer (fig. 3H-15).

(3) Remove lock cylinder.

Installation

(1) Position retainer in opening and install lock cylinder in liftgate.

(2) Engage retainer in grooves in lock cylinder and install screw.

Latch

Removal

(1) Remove screws attaching latch (fig. 3H-15) to liftgate.

(2) Remove latch from liftgate.

Installation

(1) Position latch on liftgate.

(2) Install screws attaching latch to liftgate and tighten to 65 inch-pounds (7.3 Nm) torque.

Striker

The striker (fig. 3H-15) provides a secure retention point for the latch and limits movement of the liftgate. It consists of a formed wire loop, cushioned with a rubber sleeve, attached to the back panel assembly with two screws.

Adjustment

Lower striker to pull liftgate down more securely on rubber sealer. Raise striker if too much force is required to close liftgate.

NOTE: Latch must enter striker without shifting or binding liftgate in closed position.

(1) Determine proper striker alignment.

(2) Remove anti-rattle pin from liftgate.

(3) Loosen attaching screws and move striker to desired position.

(4) Tighten striker attaching screws to 110 inch-pounds (12.4 Nm) torque.

(5) Install anti-rattle pin and adjust for proper fit into pin guide. Tighten screws to 25 inch-pounds (2.8 Nm) torque.

(6) Apply lubricant to striker and anti-rattle pin.

NOTE: Check to be sure that liftgate closes properly.

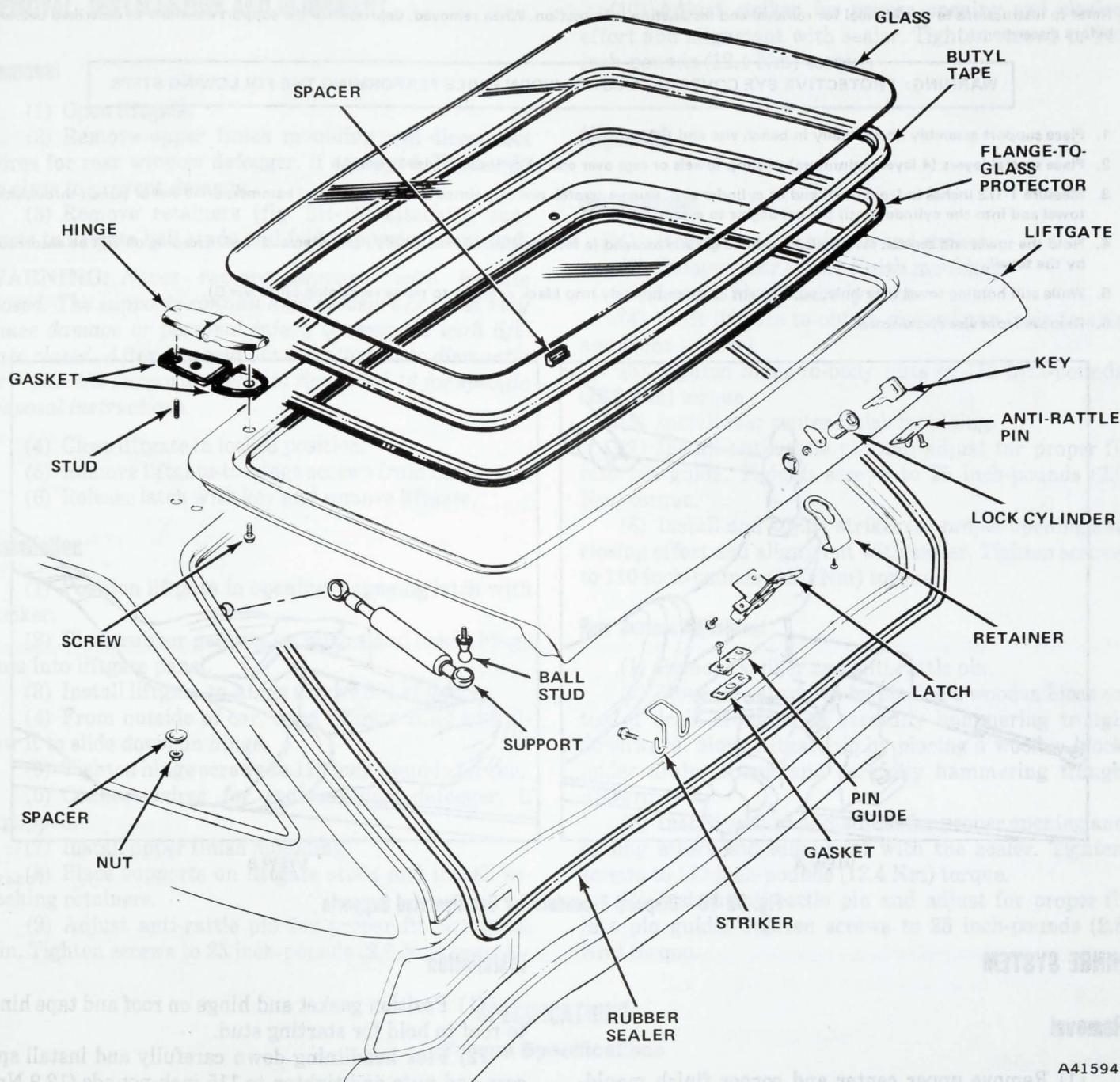


Fig. 3H-15 Concord Wagon Liftgate Components

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SUPPORT SYSTEM**Removal**

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-16 for specific instructions for disposal.

- (1) Prop liftgate in full-open position.

(2) Remove retainers (fig. 3H-15) attaching support ball sockets to ball studs.

(3) Pull support ball sockets from ball studs and remove support.

Disposal Procedure for Gas-Operated Supports

For specific disposal instructions, refer to fig. 3H-16.

Installation

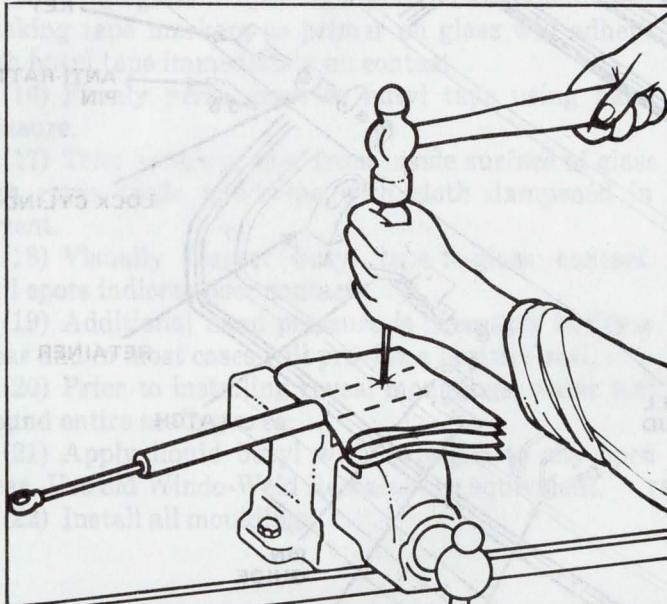
(1) Install support on ball studs attached to liftgate and body bracket.

(2) Install retainers attaching support ball sockets to ball studs.

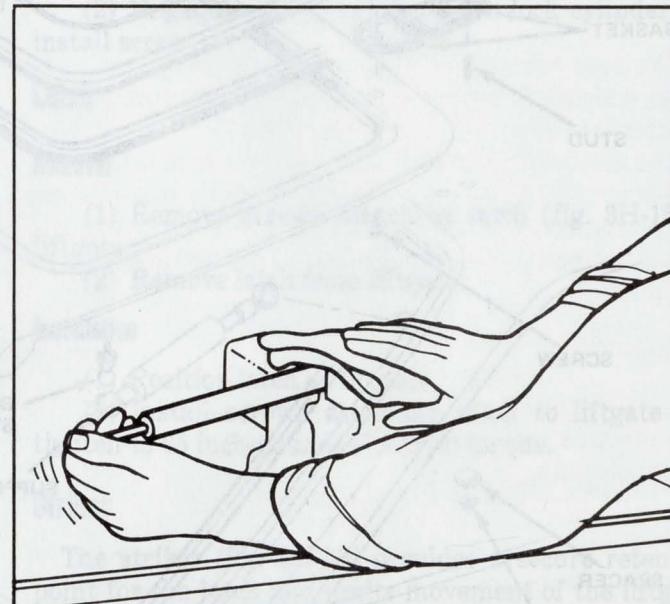
Refer to instructions in this Manual for removal and installation information. When removed, depressurize the support assembly as described below before discarding.

WARNING: PROTECTIVE EYE COVERING MUST BE WORN WHILE PERFORMING THE FOLLOWING STEPS.

1. Place support assembly horizontally in bench vise and tighten vise.
2. Place several layers (4 layers minimum) of shop towels or rags over end of cylinder in vise (View A).
3. Measure 1-1/2 inches in from fixed end of cylinder and, using a scratch awl or pointed center punch and hammer, drive awl or punch through the towel and into the cylinder until the gas begins to escape (View A).
4. Hold the towel and scratch awl in place until all gas has escaped (a few seconds). Then, slowly remove scratch awl. Escaping oil will be absorbed by the towel.
5. While still holding towel over hole, push bright shaft completely into black cylinder to purge remaining oil (View B).
6. Remove from vise and discard.



VIEW A



VIEW B

Fig. 3H-16 Disposal Procedure for Gas-Operated Supports

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HINGE SYSTEM

Removal

- (1) Remove upper center and corner finish mouldings above liftgate opening.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-16 for specific instructions for disposal.

- (2) Remove retainers (fig. 3H-15) attaching supports to liftgate ball studs and fold supports downward.
- (3) Close liftgate in locked position.
- (4) Flex headlining down carefully and remove roof-to-hinge nuts and spacers.
- (5) Remove liftgate-to-hinge screw.
- (6) Remove hinge and gaskets.

Installation

- (1) Position gasket and hinge on roof and tape hinge to roof to hold for starting stud.
- (2) Flex headlining down carefully and install spacers and nuts and tighten to 115 inch-pounds (12.9 Nm) torque.
- (3) Position gasket and hinge to liftgate and tape.
- (4) Install liftgate-to-hinge screw 3/4 of way and remove tape.
- (5) Open liftgate fully and allow it to slide down on hinge.
- (6) Tighten hinge screws to 115 inch-pounds (12.9 Nm) torque.
- (7) Install supports on ball studs and secure with attaching retainers.
- (8) Check liftgate for proper alignment in opening and adjust if necessary.
- (9) Connect rear window defogger wires, if equipped.
- (10) Install finish mouldings.

REMOVAL, INSTALLATION AND ALIGNMENT

Removal

- (1) Open liftgate.
- (2) Remove upper finish moulding and disconnect wires for rear window defogger, if equipped. Tape ends to glass to prevent damage.
- (3) Remove retainers (fig. 3H-15) attaching supports to liftgate ball studs and fold supports downward.

WARNING: Never remove supports with liftgate closed. The supports contain high pressure gas and may cause damage or personal injury if removed with liftgate closed. After removal, do not attempt to dismantle or repair the supports. Refer to figure 3H-16 for specific disposal instructions.

- (4) Close liftgate in locked position.
- (5) Remove liftgate-to-hinge screws from inside car.
- (6) Release latch with key and remove liftgate.

Installation

- (1) Position liftgate in opening, engaging latch with striker.
- (2) Place rubber gaskets on hinges and insert hinge boss into liftgate panel.
- (3) Install liftgate-to-hinge screws 3/4 of way.
- (4) From outside of car, open liftgate fully and allow it to slide down on hinge.
- (5) Tighten hinge screws to 115 inch-pounds torque.
- (6) Connect wires for rear window defogger, if equipped.
- (7) Install upper finish moulding.
- (8) Place supports on liftgate studs and install attaching retainers.
- (9) Adjust anti-rattle pin for proper fit into guide pin. Tighten screws to 25 inch-pounds (2.8 Nm) torque.

- (10) Adjust striker for proper opening and closing effort and alignment with sealer. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

Alignment

Gap Adjustment

- (1) Remove anti-rattle pin and striker.
- (2) Remove rear center finish moulding.
- (3) Loosen hinge-to-body nuts.
- (4) Shift liftgate to obtain desired gap (side-to-side and front-to-rear).
- (5) Tighten hinge-to-body nuts to 115 inch-pounds (12.9 Nm) torque.
- (6) Install rear center finish moulding.
- (7) Install anti-rattle pin and adjust for proper fit into pin guide. Tighten screws to 25 inch-pounds (2.8 Nm) torque.
- (8) Install and adjust striker for proper opening and closing effort and alignment with sealer. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

Rear Surface Adjustment

- (1) Remove striker and anti-rattle pin.
- (2) Move liftgate down by placing a wooden block on top of drain trough and carefully hammering trough downward. Move liftgate up by placing a wooden block under drain trough and carefully hammering trough upward.
- (3) Install striker and adjust for proper opening and closing effort and alignment with the sealer. Tighten screws to 110 inch-pounds (12.4 Nm) torque.
- (4) Install anti-rattle pin and adjust for proper fit into pin guide. Tighten screws to 25 inch-pounds (2.8 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

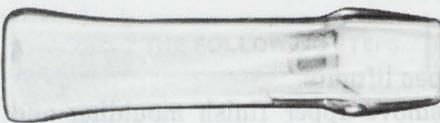
	METRIC (N·m)	USA (in.lbs.)
Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque
Lift Door Latch Striker	71	54-81
Lift Door Guide Pins	3	2-3
Lift Door Hinge to Body	13	9-18
Lift Door Hinge to Door	13	9-18
Ball Stud — Lift Door Support to Door	7	6-8
		52 ft-lbs.
		25
		115
		115
		60
		40-60 ft-lbs.
		18-27
		80-160
		80-160
		50-75

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

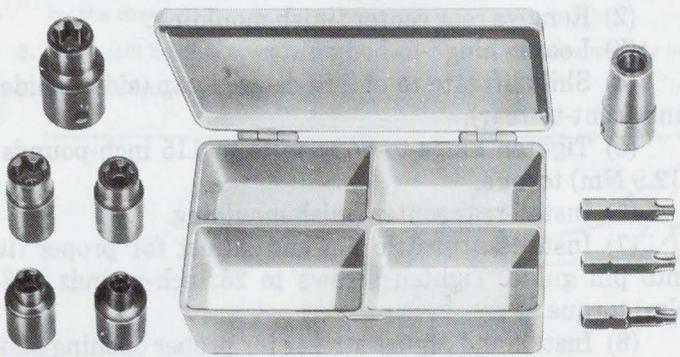
70344D

Special Tools

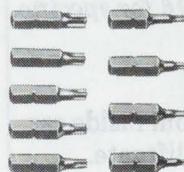
J-2631-01
TRIM PAD
DEPRESSOR



J-21549-1
HANDLE



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

MATADOR STATION WAGON TAILGATE

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Lock System	3H-40
Sealing System	3H-33
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TRIM

Release Handle

The vertical and horizontal release handles are attached to each remote control with a chrome plated cross-recessed machine screws.

Trim Panel

The trim panel is attached to the tailgate inner panel with screws and the upper edge by a lip that overlaps the tailgate inner panel top flange.

Removal

- (1) Remove vertical and horizontal release handles.
- (2) Remove screws attaching trim panel to tailgate.
- (3) Remove trim panel by pulling out and up to disengage panel from tailgate inner panel top flange.

Installation

- (1) Install trim panel over tailgate inner panel top flange and align remote control shafts with holes in trim panel.
- (2) Install screws attaching trim panel to tailgate.
- (3) Install vertical and horizontal release handles.

EXTERIOR MOULDINGS

The tailgate reveal mouldings fit over the weld flanges in the rear body opening. Both side reveal mouldings may be removed individually; however, in order to remove the upper reveal moulding, the side reveal mouldings must also be removed.

Removal

- (1) Remove screws at upper and lower ends of channel.

(2) Slide lower moulding out of upper moulding and remove.

(3) Remove screws inside channel of upper reveal moulding and remove moulding.

Installation

(1) Position upper reveal moulding and install attaching screws.

(2) Slide lower moulding into upper moulding and install attaching screws.

SEALING SYSTEM

Glass Slide Channel

Two slide channels are mounted in slotted holes in the tailgate with screws for in-and-out adjustments.

The upper pillar glass slides are installed with a weatherstrip stapled to the side reveal moulding and an inner weatherstrip which is fastened to slots in the pillar by barbed clips and anchored at the bottom with a sheet metal screw (fig. 3H-17).



Fig. 3H-17 Inner Weatherstrip on Side Pillar

Removal

(1) Carefully pry at each clip to compress barbed tab slightly.

(2) Tip weatherstrip away from slot and lift out.

Installation

(1) Straighten slots in pillar if distorted.

(2) Compress barbed tabs on clips to provide a positive bite.

(3) Insert ends of clips into slots and tap lightly into place.

(4) Lap lower end of weatherstrip over sealer rubber and fasten with screw.

Glass Outer Weatherstrip

The rubber-lipped, outer tailgate glass weatherstrip is equipped with barbed clips which are clinched to it. It is attached to the outer panel by inserting the barbed spring tabs into slotted holes provided in the upper flange.

Removal

(1) Pry up on weatherstrip to release barb on clip from elongated hole in tailgate flange. Repeat for each clip on the weatherstrip.

(2) Tip weatherstrip away from mounting hole and lift out.

Installation

(1) Straighten retaining slots in outer flange.

(2) Compress clips with pliers to provide a snug fit.

(3) Insert end of clip into slot and lightly tap weatherstrip into place.

Glass Inner Weatherstrip

The inner weatherstrip is stapled to the upper flange of the trim panel.

Removal

(1) Pry staples from weatherstrip or cut with side cutters.

(2) Remove weatherstrip.

Installation

(1) Drill a 1/8-inch diameter hole next to each of the seven slots and through the weatherstrip and trim panel flange.

(2) Fasten weatherstrip with 1/8-inch diameter blind or pop rivets.

Window Slide Weatherstrip

Removal

(1) Remove reveal moulding.

(2) Pry clips from reveal moulding or cut with side cutters and pull off weatherstrip.

Installation

- (1) Position weatherstrip on reveal moulding.
- (2) Drill four 1/8-inch diameter holes, equally spaced, through weatherstrip and reveal moulding.
- (3) Fasten with 1/8-inch diameter blind or pop rivets.
- (4) Install reveal moulding.

Rubber Sealer

The rubber sealer is bonded into the drain channel in the rear body opening and seals against the tailgate inner panel.

Dust seals cover the drain holes in the tailgate inner panel, and allow water to drain out while preventing dust from entering. The dust seals are held in position over the drain holes with plastic fasteners.

Removal

- (1) Use 3M Release Agent, or equivalent, and snorkel tube and spray between drain channel and rubber sealer. Allow 2 to 3 minutes for penetration and softening of adhesive.
- (2) Lift sealer from drain channel before solvent evaporates and adhesive resets.
- (3) If sealer is torn, clean old sealer and adhesive residue from drain channel with 3M General Purpose Adhesive Cleaner or equivalent.

Installation

- (1) Remove protective powder from new sealer with 3M General Purpose Adhesive Cleaner, or equivalent.
- (2) Apply 1/8-inch bead of 3M Super Weatherstrip Adhesive, or equivalent, to drain channel.
- (3) Install sealer in channel being careful not to stretch sealer.

WINDOW SYSTEM**Glass Assembly-Manually Operated****Removal**

- (1) Open tailgate.
- (2) Remove tailgate trim panel.
- (3) Raise glass until it is completely out of tailgate. Slide glass assembly to disengage regulator arms from glass bottom channel and remove glass assembly from tailgate.

NOTE: Use the following alternate procedures to remove the tailgate glass assembly in the event a defective regulator or other components prevent cranking the glass up or down.

Glass Stuck In Down Position

- (1) Open tailgate.
- (2) Remove tailgate trim panel.
- (3) Remove access hole covers.
- (4) Remove regulator handle assembly.
- (5) Drill out rivets which attach regulator pinion shaft housing to regulator frame.
- (6) Pull shaft housing free from regulator.
- (7) Raise glass manually and remove from tailgate.

Glass Stuck In Up Position

- (1) Remove spare tire cover and tire.
- (2) Remove tailgate trim panel.
- (3) Remove access hole covers.
- (4) Remove regulator attaching screws.
- (5) Move regulator left and right to disengage rollers from glass slide channel.
- (6) Remove regulator.
- (7) Lower glass and open tailgate. Remove glass assembly.

Installation

- (1) Install regulator.
- (2) Slide glass bottom channels into regulator arms.
- (3) Lower glass into tailgate.
- (4) Install access hole covers and inner trim panel.
- (5) Install spare tire and cover.
- (6) Close tailgate.

Glass Alignment

- (1) Remove tailgate trim panel.
- (2) Remove access hole covers.
- (3) Loosen regulator attaching screws (fig. 3H-18).

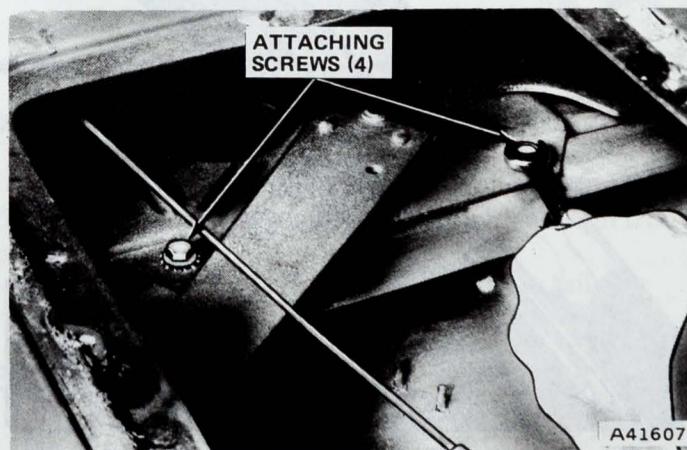


Fig. 3H-18 Regulator Attaching Screws

- (4) Shift regulator up or down or side-to-side to desired position.
- (5) Tighten regulator screws to 90 inch-pounds (10.2 Nm) torque.
- (6) Loosen glass slide channel mounting screws.

- (7) Move channel in or out to obtain proper fit in upper slide channel and tighten screws.
- (8) Install access hole covers.
- (9) Install tailgate trim panel.

Window Regulator—Manually Operated

Removal

- (1) Remove tailgate glass.
- (2) Remove access hole covers.
- (3) Move regulator arms to expose regulator attaching screws.
- (4) Remove tailgate window regulator handle assembly attaching screws and remove assembly.
- (5) Scribe line on regulator mounting panel to aid in locating regulator at time of installation.
- (6) Remove regulator attaching screws (fig. 3H-18).
- (7) Remove regulator through access holes in tailgate inner panel.

Installation

- (1) Place regulator arms in raised position.
- (2) Install regulator through access hole and align with scribed marks.
- (3) Install attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.
- (4) Install tailgate window regulator handle assembly **with handle extended horizontally to the left**.
- (5) Install tailgate glass.
- (6) Install access hole covers.
- (7) Install tailgate trim panel.

Glass Assembly—Electrically Operated

The tailgate motor is of a two-wire design, using polarity of the circuit to change rotation. The motor and drive unit are serviced as an assembly.

Two switches operate the window, one on the instrument finish panel on the left side, the other in the tailgate key lock. The dash switch is a rocker type and is spring loaded to return to the OFF (center) position. The tailgate switch turns to the left to lower window and the right to raise window.

A safety release incorporated in the tailgate prevents the tailgate from being opened unless the window is completely lowered.

To avoid damage to the glass channels and regulator, a plunger type safety switch is mounted on the left auxiliary floor panel. The switch is connected in series with the dash mounted switch and the up circuit of the tailgate switch. It is possible to lower, but not raise, the tailgate window with the key switch without the tailgate being closed.

The motor and wiring are protected by two 20-ampere circuit breakers (fig. 3H-19) located on the back left side of the instrument panel above the parking brake release handle.

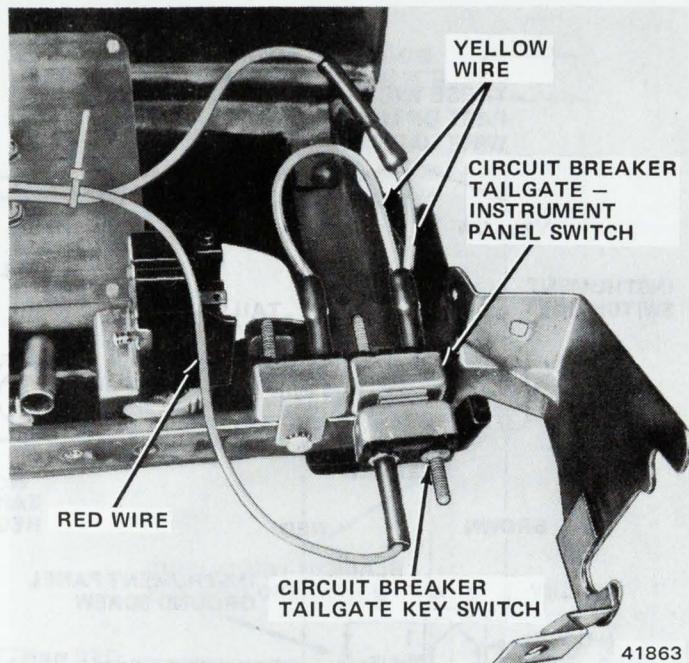


Fig. 3H-19 Tailgate Window Circuit Breaker Location

Should the red and brown and red or yellow wires from the main harness or from the circuit breakers be interchanged, the instrument panel switch will operate at all times and the tailgate switch will operate only when the ignition switch is on the ON or RUN position.

The ground for the tailgate circuit is furnished by a single black wire which grounds at the instrument panel adjacent to the circuit breakers.

The circuit diagrams illustrated in figures 3H-20 through 3H-23 may be used in tracing problems in the tailgate window circuit.

Removal

- (1) Open tailgate.
- (2) Remove remote control release handles and trim panel.
- (3) Raise glass to up position.

NOTE: To raise the glass while the tailgate is open, manually depress the safety switch mounted on the left auxiliary floor panel, and turn key to right in tailgate lock.

- (4) Slide glass assembly out of the regulator arms to remove (fig. 3H-24).

Installation

- (1) Position one slide of glass on regulator arm, then the other.
- (2) Position glass in tailgate and turn key switch to lower glass.
- (3) Close tailgate and check glass operation and alignment. Adjust if necessary.
- (4) Open tailgate and install trim panel and remote release handles.
- (5) Close tailgate.

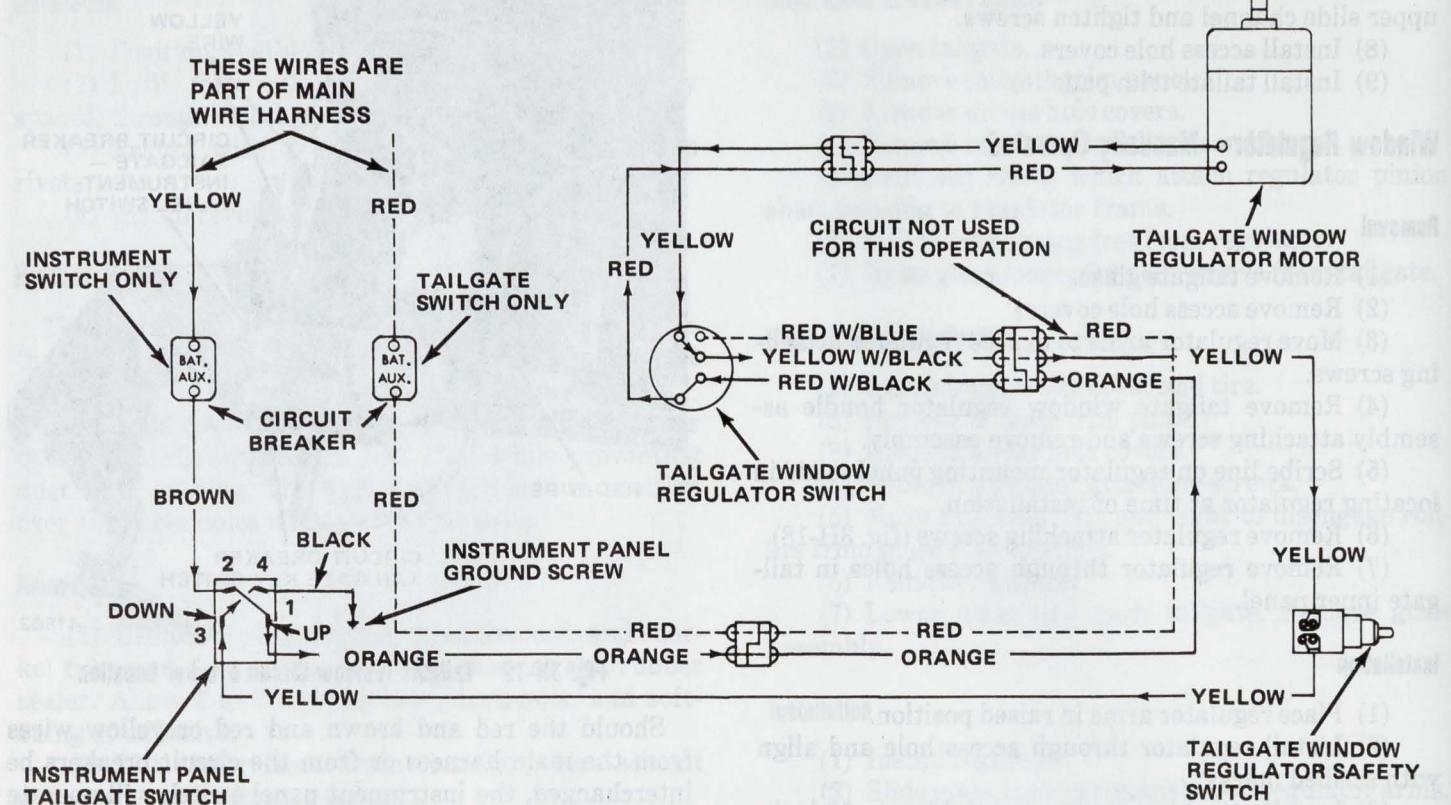


Fig. 3H-20 Instrument Panel Switch—Up Circuit

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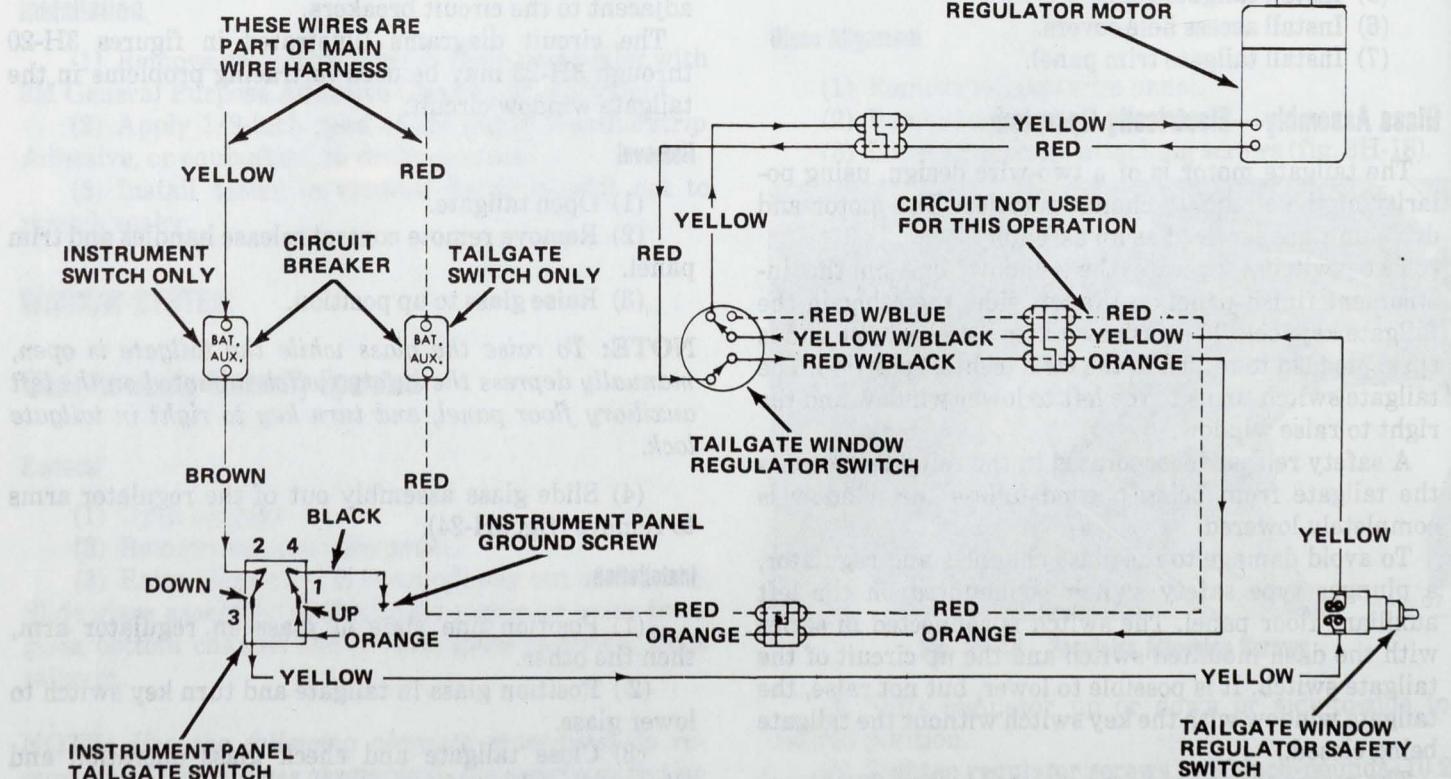


Fig. 3H-21 Instrument Panel Switch—Down Circuit

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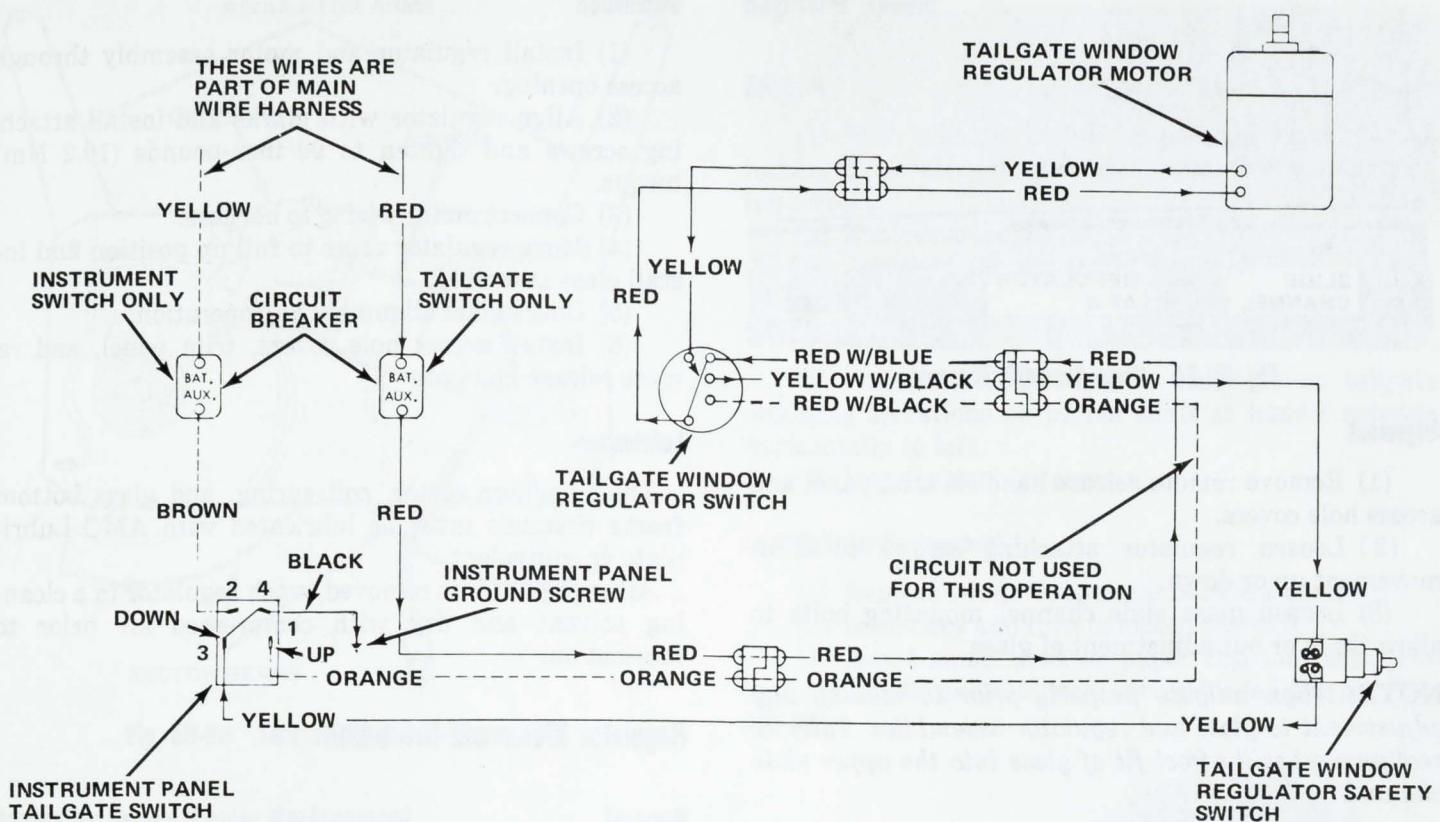


Fig. 3H-22 Tailgate Switch—Up Circuit

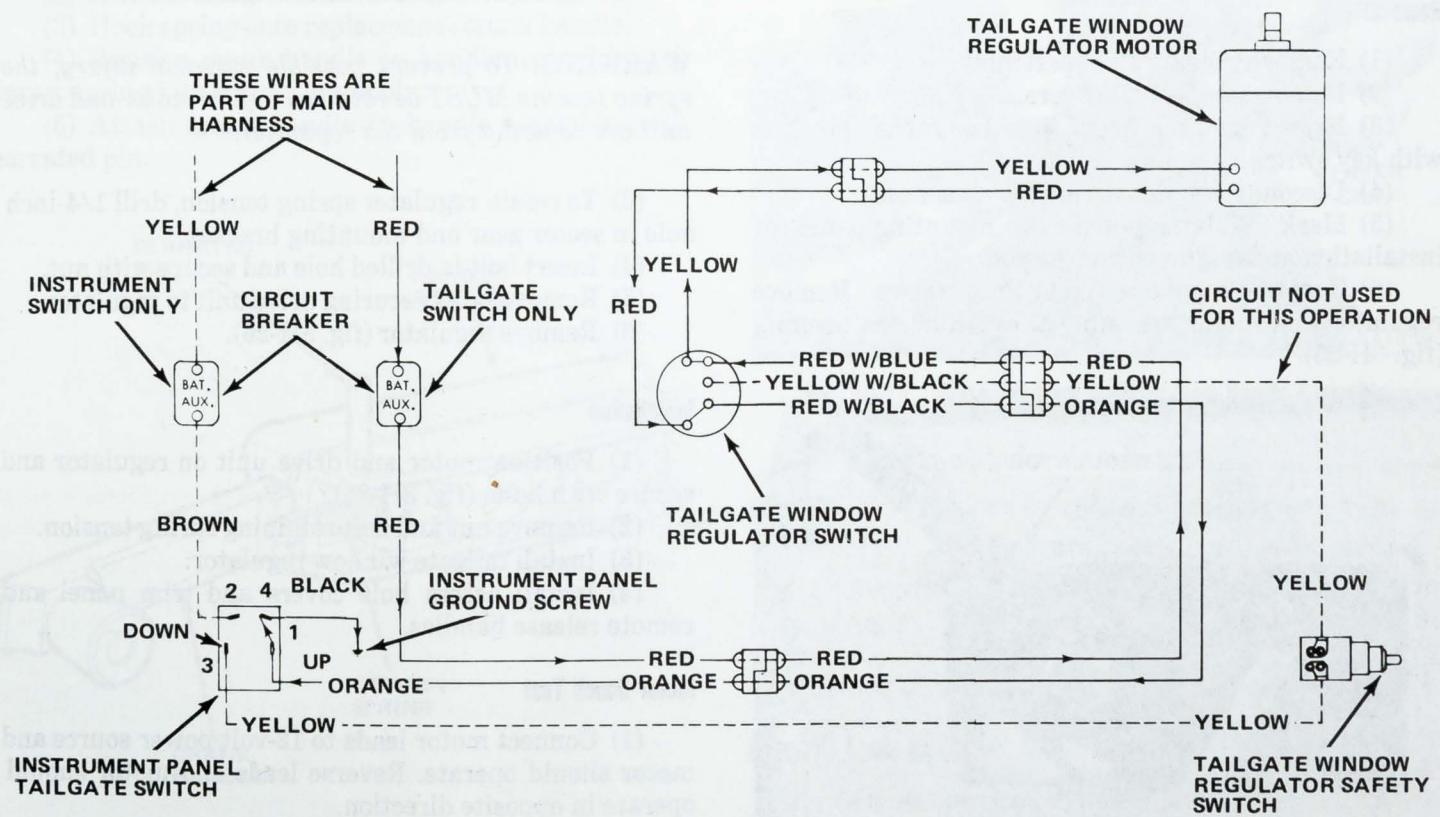


Fig. 3H-23 Tailgate Switch—Down Circuit

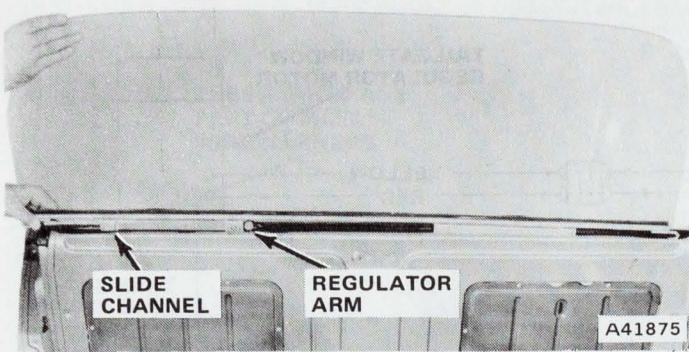


Fig. 3H-24 Glass Assembly Removal

Alignment

- (1) Remove remote release handles, trim panel and access hole covers.
- (2) Loosen regulator attaching screws to allow movement up or down.
- (3) Loosen glass slide channel mounting bolts to allow tip in or out adjustment of glass.

NOTE: Align tailgate properly prior to making any adjustment to glass and regulator assemblies. Tailgate realignment will affect fit of glass into the upper slide channel.

Window Regulator—Electrically Operated**Removal**

- (1) Remove tailgate glass assembly.
- (2) Remove access hole covers.
- (3) Move regulator arms to a horizontal position with key switch.
- (4) Disconnect motor wiring from harness.
- (5) Mark regulator position on mounting panel for installation and alignment purposes.
- (6) Remove regulator mounting screws. Remove regulator and motor assembly through access opening (fig. 3H-25).

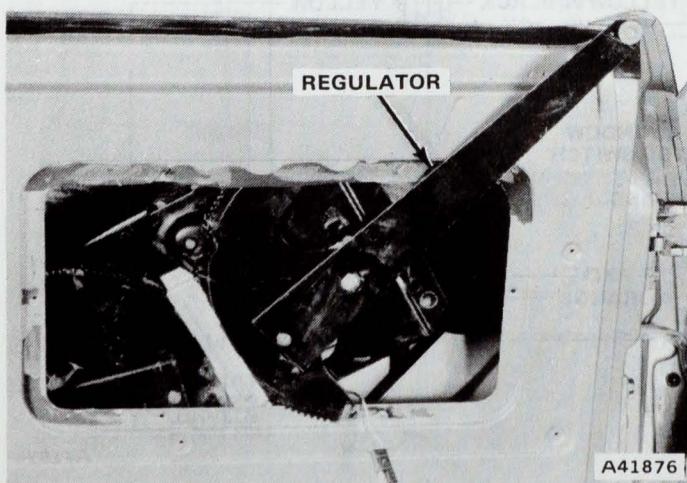


Fig. 3H-25 Tailgate Window Regulator Removal

Installation

- (1) Install regulator and motor assembly through access opening.
- (2) Align regulator with marks and install attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.
- (3) Connect motor wiring to harness.
- (4) Move regulator arms to full up position and install glass assembly.
- (5) Check glass alignment and operation.
- (6) Install access hole covers, trim panel, and remote release handles.

Lubrication

The regulator sector, coil spring, and glass bottom frame channels must be lubricated with AMC Lubriplate or equivalent.

After regulator is removed, wash regulator in a cleaning solvent and dry with compressed air prior to lubrication.

Regulator Motor and Drive Unit**Removal**

- (1) Remove remote release handles, trim panel, and access hole covers.
- (2) Remove tailgate window regulator.

WARNING: To prevent possible personal injury, the spring tension **MUST** be retained before motor and drive unit are removed from the regulator.

- (3) To retain regulator spring tension, drill 1/4-inch hole in sector gear and mounting bracket.
- (4) Insert bolt in drilled hole and secure with nut.
- (5) Remove bolts securing drive unit to regulator.
- (6) Remove regulator (fig. 3H-26).

Installation

- (1) Position motor and drive unit on regulator and secure with bolts (fig. 3H-26).
- (2) Remove nut and bolt retaining spring tension.
- (3) Install tailgate window regulator.
- (4) Install access hole covers and trim panel and remote release handles.

Motor Bench Test

- (1) Connect motor leads to 12-volt power source and motor should operate. Reverse leads and motor should operate in opposite direction.
- (2) If motor does not operate, check for binding in regulator. If regulator is free, motor or lead wires are defective.

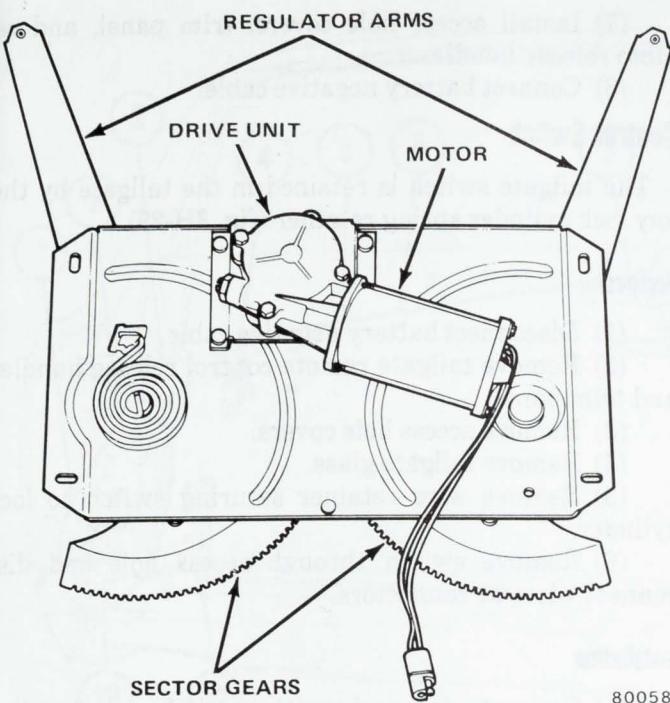


Fig. 3H-26 Tailgate Regulator—Removed

Regulator Crank Handle Replacement

- (1) Remove serrated pivot pin with a pin punch (fig. 3H-27).
- (2) Remove crank handle and return spring.
- (3) Hook spring onto replacement crank handle.
- (4) Position crank handle on handle assembly and insert spring into handle assembly.
- (5) Attach crank handle to handle assembly with serrated pin.

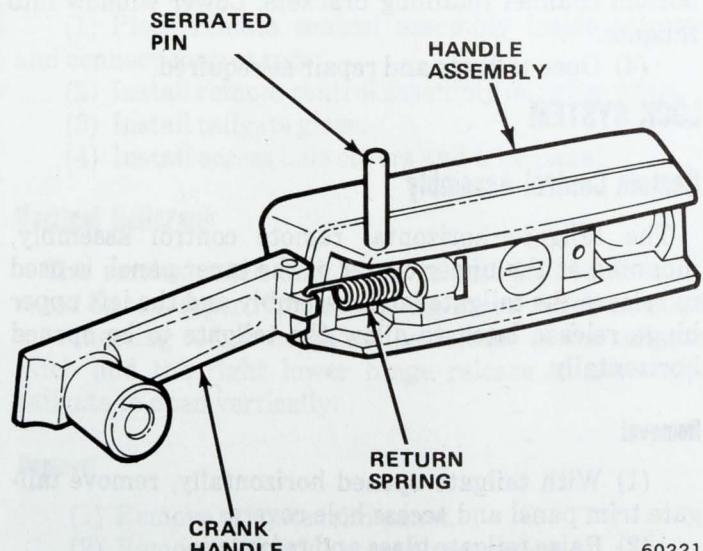


Fig. 3H-27 Crank Handle Replacement

Regulator Handle**Removal**

- (1) With window in full up position, extend crank handle to operating position and rotate to expose attaching screws.
- (2) Remove attaching screws.
- (3) Remove handle assembly and pad.

Installation

- (1) Position pad and handle assembly on tailgate engaging serrations on pinion shaft so handle extends horizontally to left.
- (2) Install attaching screws.

Lock Cylinder Replacement

- (1) Remove window regulator handle assembly.
- (2) Insert key and turn to locked position.
- (3) Insert small drift or paper clip into hole provided in handle and compress spring-loaded plunger (fig. 3H-28).

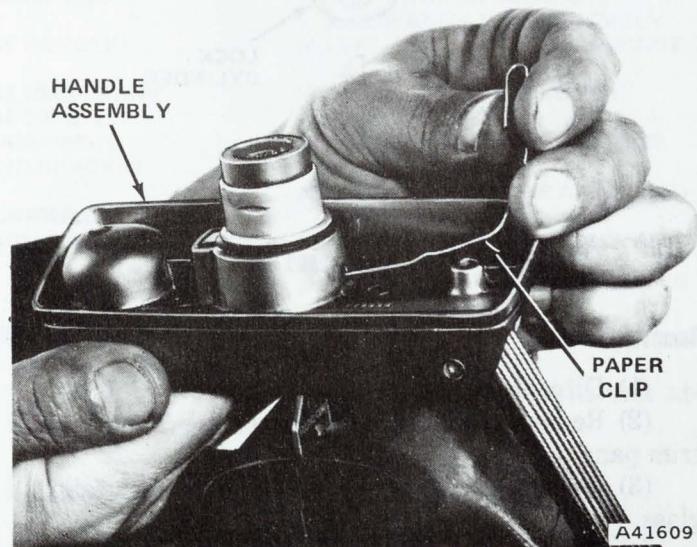


Fig. 3H-28 Removing Lock Cylinder from Handle Assembly

- (4) Remove cylinder from handle.

NOTE: For tumbler or cylinder replacement, refer to Chapter 3J.

- (5) Replace lock cylinder by depressing spring plunger on cylinder and pushing cylinder into handle assembly.
- (6) Install window regulator handle assembly.

Electric Lock Cylinder

The tailgate key lock cylinder is held in place on the escutcheon by a spring retainer (fig. 3H-29).

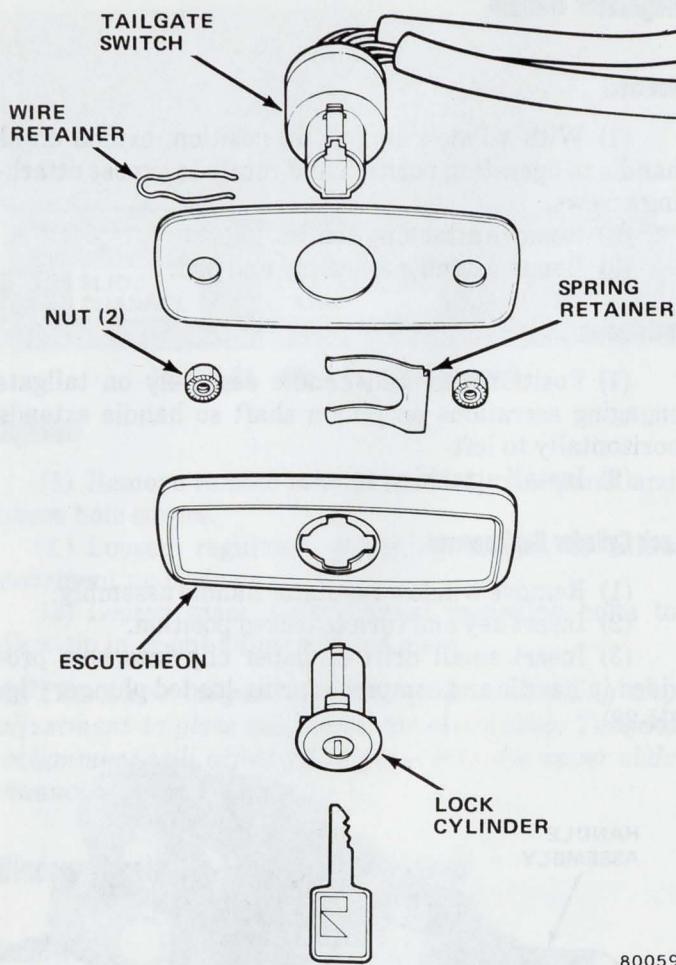


Fig. 3H-29 Lock Cylinder and Switch Assembly

Removal

- (1) Disconnect battery negative cable.
- (2) Remove tailgate remote release handles and trim panel.
- (3) Remove access hole covers and remove tailgate glass.
- (4) Remove wire retainer.
- (5) Remove nuts retaining eschtcheon to tailgate outer panel.
- (6) Remove spring retainer.
- (7) Remove tailgate switch from lock cylinder.
- (8) Remove lock cylinder.

Installation

- (1) Position lock clinder on escutcheon and install spring retainer.
- (2) Align grooves on lock cylinder with those in tailgate switch.
- (3) Position lock cylinder in switch.
- (4) Install escutcheon on tailgate outer panel and secure with nuts.
- (5) Install wire retainer in switch.
- (6) Lower glass into tailgate.

- (7) Install access hole covers, trim panel, and remote release handles.
- (8) Connect battery negative cable.

Control Switch

The tailgate switch is retained in the tailgate by the key lock cylinder spring retainer (fig. 3H-29).

Removal

- (1) Disconnect battery negative cable.
- (2) Remove tailgate remote control release handles and trim panel.
- (3) Remove access hole covers.
- (4) Remove tailgate glass.
- (5) Remove wire retainer securing switch to lock cylinder.
- (6) Remove switch through access hole and disconnect wires at connectors.

Installation

- (1) Connect wires and position switch on lock cylinder and install wire retainer.
- (2) Lower glass into tailgate.
- (3) Install access hole covers, trim panel and remote control release handles.
- (4) Connect battery negative cable.

EMERGENCY TAILGATE OPENING PROCEDURE

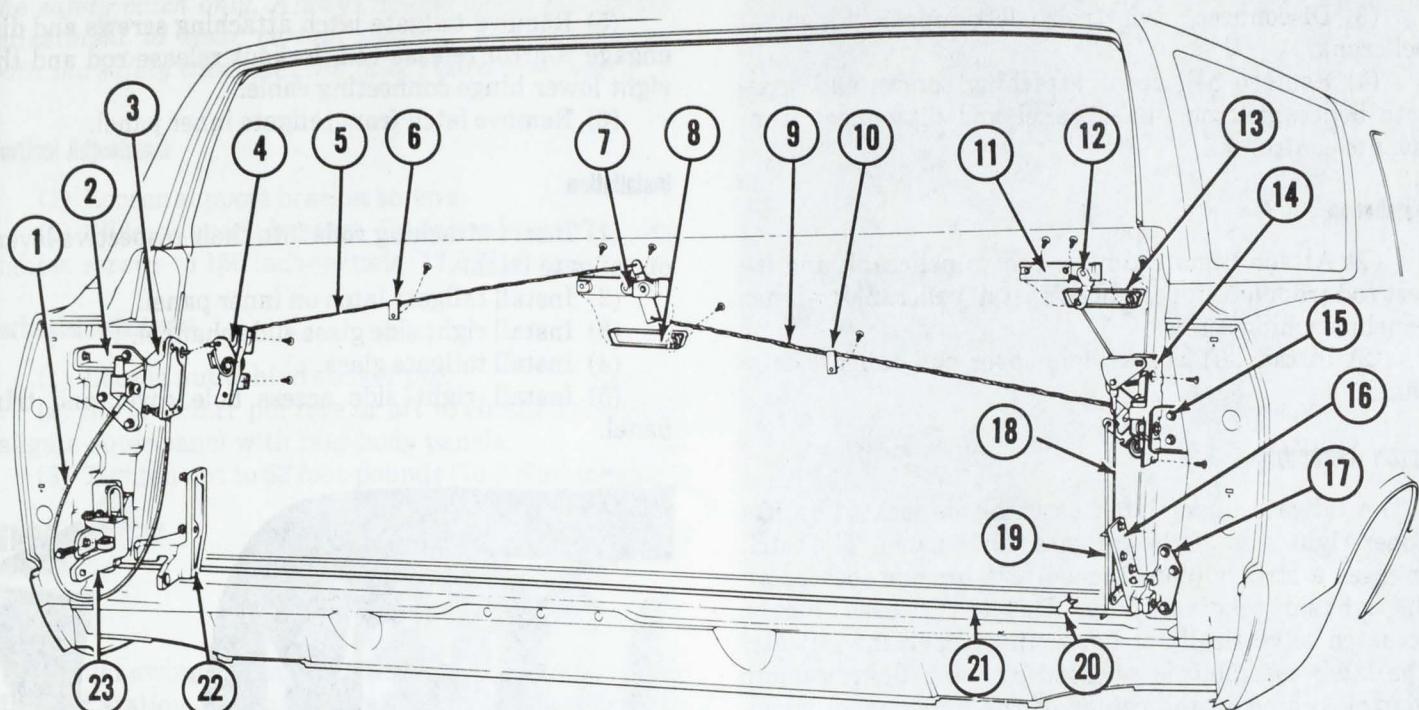
- (1) Disconnect battery negative cable.
- (2) Remove remote control release handles, trim panel, and access hole covers.
- (3) Remove small hexagon head screws that retain regulator arm slide channels to glass bottom channel. Hold glass in place and force slide channels out of glass bottom channel retaining brackets. Lower window into tailgate.
- (4) Open tailgate and repair as required.

LOCK SYSTEM**Remote Control Assembly**

The tailgate horizontal remote control assembly, mounted at the upper center of the inner panel, is used to release the tailgate latch assembly and the left upper hinge release latch to allow the tailgate to be opened horizontally.

Removal

- (1) With tailgate opened horizontally, remove tailgate trim panel and access hole covers.
- (2) Raise tailgate glass and remove.
- (3) Remove tailgate horizontal remote control assembly attaching screws and disconnect right and left control rods (fig. 3H-30).
- (4) Remove remote control assembly.



1. TAILGATE SUPPORT CABLE
2. LEFT UPPER HALF HINGE AND ECCENTRIC ROLLER PIN ASSEMBLY
3. LEFT UPPER BODY HALF HINGE AND LATCH ASSEMBLY
4. LEFT UPPER HINGE HORIZONTAL LATCH RELEASE BELLCRANK
5. LEFT LATCH RELEASE ROD
6. RELEASE ROD CLIP
7. HORIZONTAL REMOTE CONTROL
8. HORIZONTAL RELEASE HANDLE

9. RIGHT LATCH RELEASE ROD
10. RELEASE ROD CLIP
11. VERTICAL RELEASE REMOTE CONTROL
12. VERTICAL RELEASE BELLCRANK
13. VERTICAL RELEASE HANDLE
14. TAILGATE LATCH ASSEMBLY
15. LATCH STRIKER AND BRACKET ASSEMBLY
16. RIGHT LOWER HALF HINGE AND LATCH ASSEMBLY

17. RIGHT LOWER BODY HALF HINGE AND LATCH ASSEMBLY
18. UPPER LATCH TO LOWER HINGE LATCH RELEASE CABLE
19. GLASS OPERATED SAFETY RELEASE ROD
20. TORSION ROD RETAINER CLIP
21. TORSION ROD
22. LEFT LOWER HINGE ASSEMBLY - DOOR HALF
23. LEFT LOWER HINGE ASSEMBLY - BODY HALF

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Fig. 3H-30 Tailgate Assembly Components

Installation

- (1) Place remote control assembly inside tailgate and connect control rods.
- (2) Install remote control assembly on inner panel.
- (3) Install tailgate glass.
- (4) Install access hole covers and trim panel.

Vertical Bellcrank

The vertical latch and hinge release bellcrank is located on the upper right side of the inner panel; through a connecting rod, it actuates the release of the tailgate latch and the right lower hinge release to allow the tailgate to open vertically.

Removal

- (1) Remove tailgate trim panel.
- (2) Remove right side access hole cover.
- (3) Remove tailgate glass.
- (4) Remove right side glass slide channel.
- (5) Remove latch attaching screws to allow rod from bellcrank to be disconnected from latch.

- (6) Remove latch and hinge release bellcrank attaching screws. Remove bellcrank.

Installation

- (1) Attach bellrank rod to latch.
- (2) Install latch.
- (3) Install latch and hinge release bellcrank.
- (4) Install right side glass slide channel.
- (5) Install tailgate glass.
- (6) Install access hole cover and tailgate trim panel.

Horizontal Bellcrank

The horizontal latch and hinge release bellcrank is mounted at the upper left side of the tailgate inner panel. The bellcrank is connected to the horizontal remote control by a rod and to the left upper hinge latch by a short connecting rod.

Removal

- (1) Remove tailgate trim panel.
- (2) Remove left side access hole cover.

(3) Disconnect rod from left upper hinge at bellcrank.

(4) Remove bell crank attaching screws and separate bellcrank from inner panel and disconnect from remote control rod.

Installation

(1) Attach remote control rod to bellcrank and insert rod from left upper hinge. Install bellcrank-to-inner panel attaching screws.

(2) Install left access hole cover and tailgate trim panel.

Latch Assembly

The tailgate upper latch assembly is located on the upper right side of the tailgate inner panel. The latch engages a striker pin attached to a bracket located on the right side rear body pillar. This latch release must be actuated to vertically or horizontally open the tailgate. The latch assembly is released by the tailgate remote control located in the center of the inner panel which allows the tailgate to open on the horizontal hinges. The latch also can be released by the vertical latch and hinge release bellcrank located at the right side of the inner panel.

The tailgate latch incorporates a lockout feature which prevents the tailgate from being opened inadvertently when the glass is in any other position than fully down. When the glass is fully down, the glass bottom channel contacts the rod attached to the tailgate latch, bypassing the lockout and allows the latch to be opened. The latch is mounted to the tailgate door inner panel.

Alternate Tailgate Opening Procedure

NOTE: Tailgates with manually operated windows can be opened only when the glass has been cranked all the way down. This depresses the glass operated safety release rod which actuates the unlatching mechanism. If the glass has been lowered but the tailgate will not open, proceed as follows:

- (1) Remove spare tire cover.
- (2) Remove tailgate inner trim panel.
- (3) Remove left access hole cover.
- (4) Depress safety release rod (fig. 3H-31) and at the same time pull tailgate latch release handle.
- (5) Replace defective component(s) and reassemble tailgate.

Removal

(1) Remove tailgate inner trim panel.

(2) Remove right side access hole cover.

(3) Raise and remove tailgate glass.

(4) Remove glass slide channel.

(5) Remove tailgate latch attaching screws and disengage control release rod, lockout release rod and the right lower hinge connecting cable.

(6) Remove latch from tailgate inner panel.

Installation

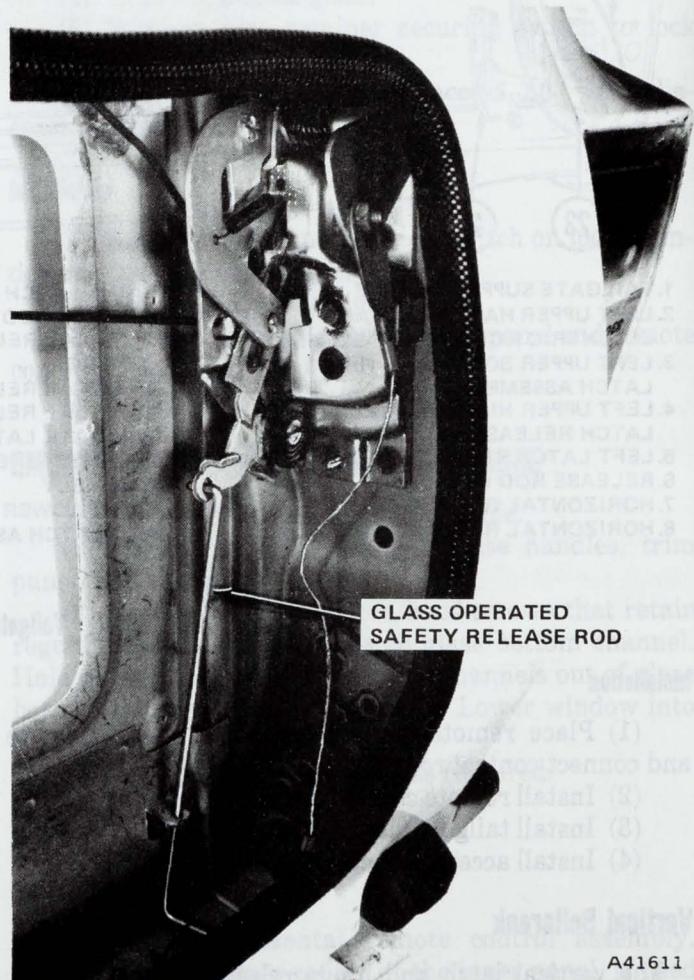
(1) Insert attaching rods into their respective levers on tailgate latch.

(2) Install tailgate latch on inner panel.

(3) Install right side glass slide channel.

(4) Install tailgate glass.

(5) Install right side access hole cover and trim panel.



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Fig. 3H-31 Glass Operated Safety Release Rod

Latch Striker

The striker pin is attached to a mounting bracket on the right rear body pillar.

The striker must be adjusted using Torx Bit Tool J-25359-02, to enter the tailgate latch squarely for vertical and horizontal operation.

NOTE: It is possible to set the striker too far inward (horizontally) to a point where the lock will engage on

the safety catch only. Always double check the striker adjustment to make certain that the lock engages on both the safety catch and the fully closed position.

Vertical Adjustment

- (1) Loosen support bracket screws.
- (2) Slide support bracket to desired position and tighten screws to 150 inch-pounds (17.0 Nm) torque.

Horizontal Adjustment

- (1) Loosen nut behind striker pin.
- (2) Move striker pin fore or aft to obtain flush fit of tailgate outer panel with rear body panels.
- (3) Tighten nut to 52 foot-pounds (70.5 Nm) torque.

HINGE SYSTEM

General

The dual swing tailgate is standard equipment on all Matador station wagon models. It can be opened horizontally as a tailgate or vertically as a door to provide easier loading and passenger entry.

The glass must be fully lowered to open the tailgate in either direction.

Vertical Opening

Lift up on the release handle located on the upper right side of the inner panel. This will simultaneously release the right upper latch from the striker pin and the latch of the right lower dual purpose hinge, allowing the door to pivot on the left upper and lower hinges (fig. 3H-32).

The left lower hinge incorporates a doorstop to prevent overtravel and a doorcheck to hold the door in the open position.

Horizontal Opening

Lift up on the release handle located at the top center of the inner panel. This will simultaneously release the right upper latch from the striker pin and the latch of the left upper hinge, allowing the gate to pivot down on the right and left lower hinges.

A torsion rod attached to the left lower hinge and extended to the door half on the right lower hinge functions as a counterbalance to assist in opening and closing the tailgate horizontally.

A support cable is fastened to the body and to the door half of the left upper hinge to support the tailgate in the open position (fig. 3H-33).

NOTE: If tailgate cannot be opened normally, refer to Alternate Tailgate Opening Procedure.

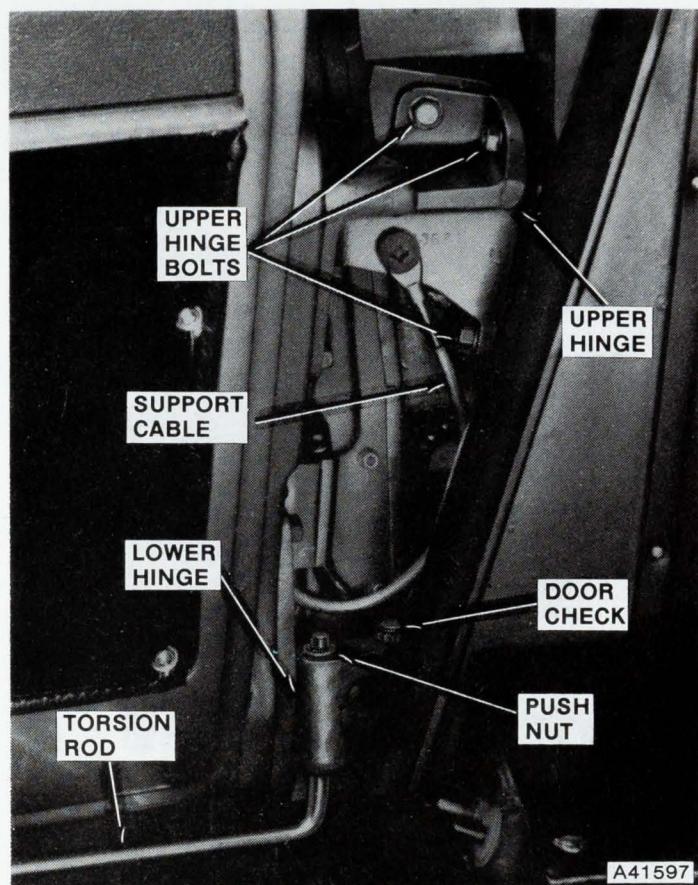


Fig. 3H-32 Left Side Hinge Attachment for Vertical Opening

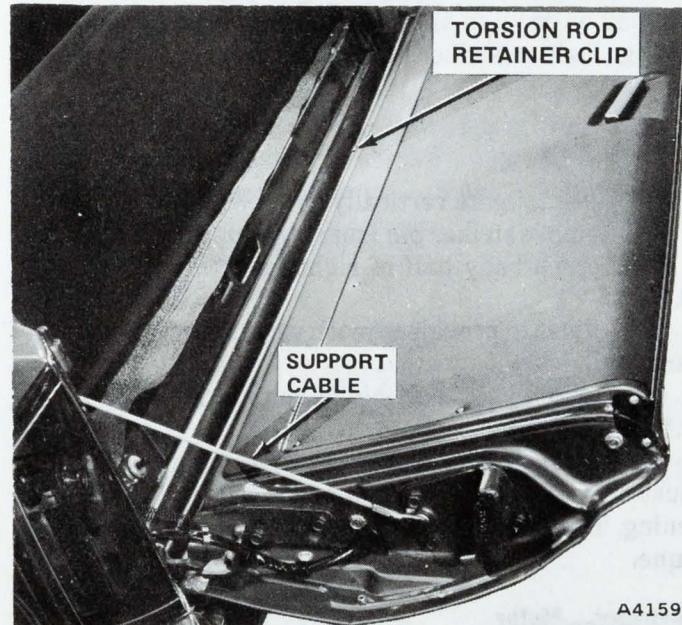


Fig. 3H-33 Tailgate Opened Horizontally

Adjustment—Minor

Left Upper Hinge

- (1) Open tailgate horizontally.
- (2) Remove striker pin from right upper bracket.

- (3) Loosen eccentric roller pin setscrew in body half of left upper hinge (fig. 3H-34).

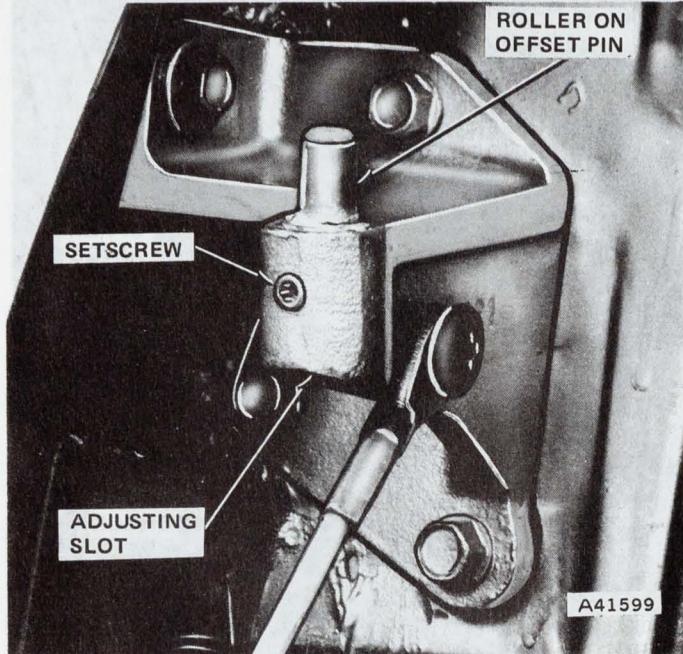


Fig. 3H-34 Left Upper Hinge Pin Attachment

- (4) Insert screwdriver in slot in bottom of pin.
- (5) Rotate pin in desired direction.
- (6) Tighten setscrew.
- (7) Install striker pin to right pillar bracket and adjust up or down to allow pin to enter latch in center of opening. Tighten striker nut to 52 foot-pounds (70.5 Nm) torque.

Right Lower Hinge

- (1) Open tailgate vertically.
- (2) Remove striker pin from right upper bracket.
- (3) Loosen body half of right lower hinge (fig. 3H-35).
- (4) Adjust to provide smooth vertical and horizontal operation.
- (5) Tighten body half hinge bolts to 20 foot-pounds (27.1 Nm) torque.
- (6) Install striker pin to right pillar bracket and adjust up or down to allow pin to enter latch in center of opening. Tighten striker nut to 52 foot-pounds (70.5 Nm) torque.

Adjustment—Major

- (1) Open tailgate horizontally.
- (2) Remove striker pin from right upper bracket.
- (3) Remove left upper hinge eccentric roller pin by removing setscrew and lifting out pin (fig. 3H-34).
- (4) Adjust two lower hinges from side-to-side or up and down until tailgate fits equally in opening. Tighten bolts to 20 foot-pounds (27.1 Nm) torque.

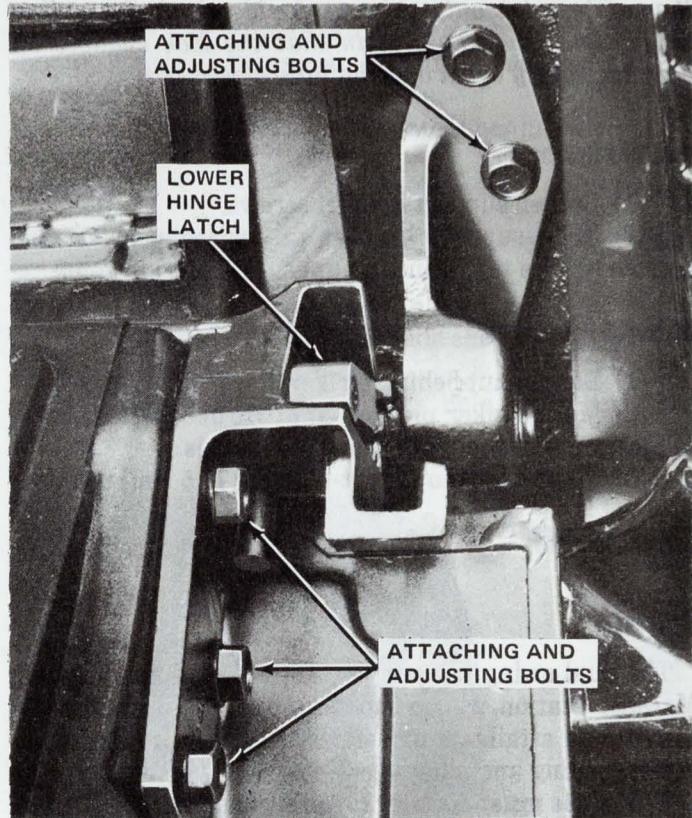


Fig. 3H-35 Right Lower Hinge

NOTE: To adjust the left lower hinge from side-to-side, add or remove shims at the outboard side (fig. 3H-36). If extreme difficulty is encountered, it may be helpful to remove taillamp housing.

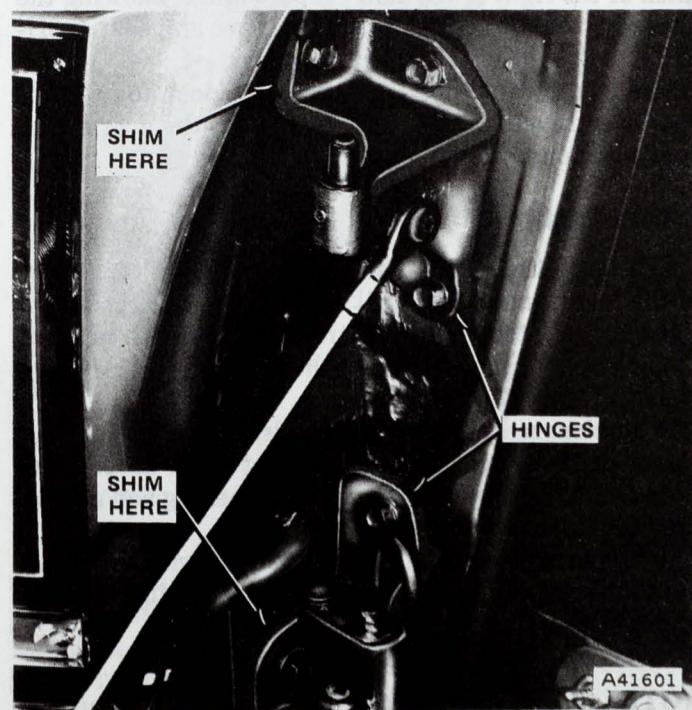


Fig. 3H-36 Left Side Hinges

- (5) Tighten lower hinge attaching screws to 20 foot-pounds (27.1 Nm) torque.
 (6) Lubricate and install eccentric pin, cam forward.

(7) Loosen body half of left upper hinge and align it with the door half by adding or removing shims to provide a slight outboard interference when screws are tight (fig. 3H-36).

(8) Raise or lower hinge to obtain a clearance of 1/8 to 3/16 inch between top face of body half and bottom face of door half (fig. 3H-37). Tighten screws to 20 foot-pounds (27.1 Nm) torque.

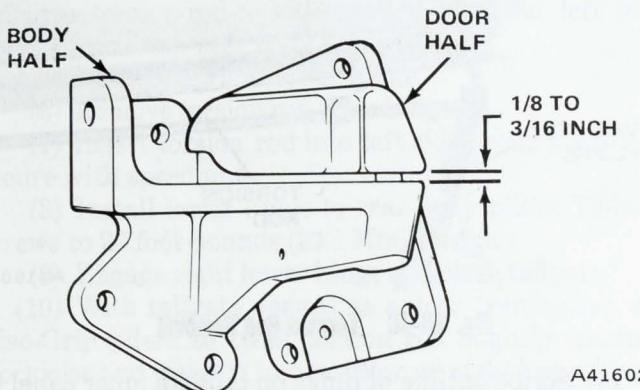


Fig. 3H-37 Left Upper Tailgate Hinge Clearance

(9) Obtain additional or final adjustment by rotating eccentric pin (screwdriver slot in bottom) and locking pin with allen screw.

(10) Move door half of hinge forward or backward to provide a flush fit of outer panels. Tighten screws to 20 foot-pounds (27.1 Nm) torque.

(11) Install striker pin to right pillar bracket and adjust up or down to allow pin to enter latch in center of opening.

(12) Open tailgate vertically and raise or lower striker so pin clears upper leading edge of latch opening by 1/16 inch (fig. 3H-38).

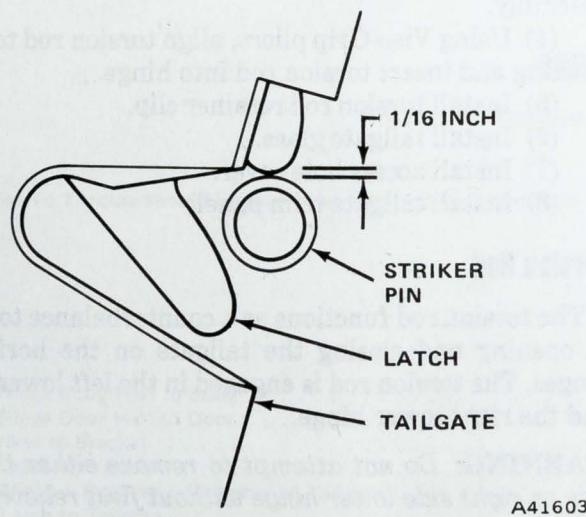


Fig. 3H-38 Striker-to-Latch Clearance

- (13) Adjust striker pin forward or back to provide a flush fit of outer panels and tighten striker ut to 52 foot-pounds (70.5 Nm) torque.

Tailgate Hinges

Left Lower Hinge

The left side lower hinge permits dual pivoting of the tailgate door for vertical and horizontal opening. This hinge incorporates a doorstop and check feature when the tailgate is opened vertically. It also secures one end of the torsion rod which serves as a counterbalance to assist in opening and closing the tailgate horizontally.

Removal

- (1) Open tailgate to horizontal position.
- (2) Remove tailgate assembly.
- (3) Scribe outline of hinge and note number of shims prior to removal.
- (4) Remove attaching screws and separate hinge from body pillar.

Installation

- (1) Position hinge on outline scribed on rear body pillar.
- (2) Install shims and secure with attaching screws. Tighten screws to 20 foot-pounds (27.1 Nm) torque.
- (3) Install tailgate assembly.
- (4) Adjust tailgate.

Left Upper Hinge

The assembly is a dual purpose hinge and latch. It serves as a hinge when the tailgate is operated vertically (as a door) and acts as a latch when the tailgate is operated horizontally (as a tailgate).

Body Half Removal

- (1) Scribe an outline of hinge on the body pillar and note number of shims to assist in assembly.
- (2) Support tailgate and disconnect tailgate support cable from hinge.
- (3) Remove left rear quarter trim panel to gain access to uncaged nut plate.
- (4) Remove hinge from body pillar.

Tailgate Half Removal

- (1) Remove tailgate trim panel and left side access hole cover.
- (2) Disconnect rod from left side bellcrank assembly.
- (3) Disconnect tailgate support cable.
- (4) Scribe an outline of the hinge on tailgate innerpanel to assist in assembly.
- (5) Remove attaching screws and separate hinge from tailgate.

Installation

(1) Position body half of hinge and shims on body pillar and install attaching screws hold uncaged nut through arm access opening. Tighten screws to 20 foot-pounds (27.1 Nm) torque.

(2) Attach tailgate support cable to hinge.

(3) Install left rear quarter trim panel.

(4) Attach tailgate half to tailgate inner panel in position as noted at removal. Tighten screws to 20 foot-pounds (27.1 Nm) torque.

(5) Secure latch rod to left side bellcrank.

(6) Install left side access hole cover and trim panel.

Right Lower Hinge

The right lower hinge assembly is a dual purpose hinge and latch (fig. 3H-39). It serves as a hinge when the tailgate is operated horizontally (as a tailgate), and serves as a latch when the tailgate is operated vertically (as a door).

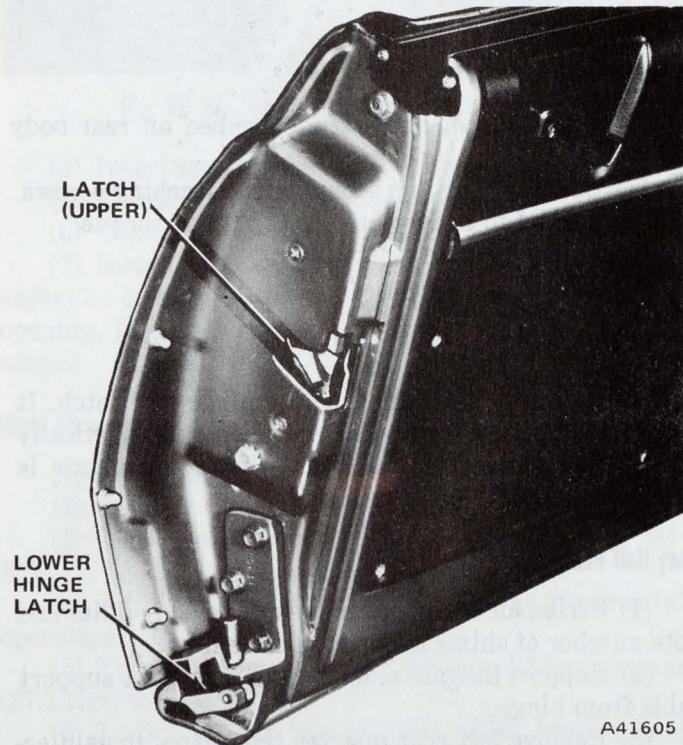


Fig. 3H-39 Tailgate Latch Assembly

Body Half Removal

(1) Open tailgate in vertical position.

(2) Scribe outline of hinge on body pillar to assist in installation.

(3) Remove hinge from body pillar.

Tailgate Half Removal

WARNING: Prior to removing the tailgate half of the right lower hinge, torsion rod tension must be relieved.

(1) Open tailgate vertically to expose torsion rod attachment at right lower hinge.

(2) Remove torsion rod retainer clip screw.

(3) Using Vise-Grip pliers, twist torsion rod slightly clockwise and pull it out of lower hinge (fig. 3H-40).

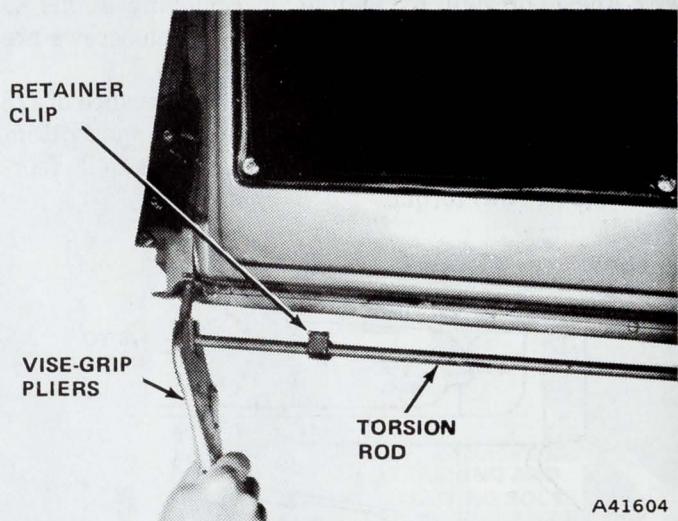


Fig. 3H-40 Torsion Rod Removal

(4) Scribe outline of hinge on tailgate inner panel to assist in installation.

(5) Remove tailgate trim panel and right side access hole cover.

(6) Raise and remove tailgate glass.

(7) Disconnect latch release cable from door latch assembly.

(8) Remove hinge from tailgate inner panel.

Installation

(1) Install hinge body half on pillar and tighten screws to 20 foot-pounds (27.1 Nm) torque.

(2) Install hinge tailgate half on tailgate inner panel and tighten screws to 20 foot-pounds (27.1 Nm) torque.

(3) Connect latch release cable to door latch assembly.

(4) Using Vise-Grip pliers, align torsion rod to hinge opening and insert torsion rod into hinge.

(5) Install torsion rod retainer clip.

(6) Install tailgate glass.

(7) Install access hole cover.

(8) Install tailgate trim panel.

Torsion Rod

The torsion rod functions as a counterbalance to assist in opening and closing the tailgate on the horizontal hinges. The torsion rod is engaged in the left lower hinge and the right lower hinge.

WARNING: Do not attempt to remove either the left side or right side lower hinge without first relieving the torsion rod tension.

Replacement

(1) Open tailgate as a door (vertically) and remove torsion rod clip (fig. 3H-40).

WARNING: Do not attempt to remove torsion rod when tailgate is opened horizontally.

(2) Using Vise-Grip pliers, twist torsion rod slightly counterclockwise to relieve tension, and pull it free from the right lower hinge (fig. 3H-39).

(3) Pivot torsion rod away from body and close tailgate.

(4) Open tailgate horizontally and support tailgate. Remove torsion-rod-to-hinge speed nut and left side lower hinge from rear body pillar.

(5) Disengage right lower hinge.

(6) Remove torsion rod from hinge.

(7) Insert torsion rod into left side lower hinge and secure with speed nut.

(8) Install lower hinge to rear body pillar. Tighten screws to 20 foot-pounds (27.1 Nm) torque.

(9) Engage right lower hinge and close tailgate.

(10) With tailgate opened as a door (vertically), use Vise-Grip pliers to twist torsion rod slightly counterclockwise and insert it into position on right lower hinge.

(11) Install torsion rod clip retaining screw.

TAILGATE ASSEMBLY**Removal**

(1) Open tailgate vertically.

(2) Remove torsion rod retainer clip (fig. 3H-40).

(3) Use Vise-Grip pliers to twist torsion rod slightly counterclockwise and pull torsion rod out of the right lower hinge (fig. 3H-40).

WARNING: Do not attempt to remove torsion rod when tailgate is opened horizontally.

(4) Pivot torsion rod away from body.

(5) Close tailgate on vertical hinges and open it on horizontal hinge.

(6) Disconnect wiring harness, if equipped with electrically operated tailgate glass.

(a) Open rear compartment, remove screws securing plastic liner, and move liner forward.

(b) Disconnect tailgate wiring harness.

(7) Place a suitable stand under tailgate to hold tailgate while removing hinges.

(8) Disconnect tailgate support cable from left side upper hinge.

(9) Disengage right lower hinge by manually tripping latch release.

(10) Scribe outline of left lower hinge on tailgate inner panel to assist in assembly.

(11) Remove tailgate left lower hinge attaching bolts from inner panel and remove tailgate assembly from body.

Installation

(1) Position left lower hinge on tailgate and install attaching screws.

(2) Adjust hinge into proper position as scribed prior to removal. Tighten screws to 20 foot-pounds (27.1 Nm) torque.

(3) Engage door half of right lower hinge into body half of right side lower hinge.

(4) Install tailgate support cable.

(5) Connect tailgate wiring harness, if equipped with electrically operated tailgate glass.

(a) Connect tailgate wiring harness.

(b) Position rear compartment plastic liner and install screws.

(c) Close cover.

(6) Close tailgate and open it vertically.

(7) Use Vise-Grip pliers to insert torsion rod into opening of right lower hinge.

(8) Install torsion rod retainer clip.

(9) Adjust tailgate.

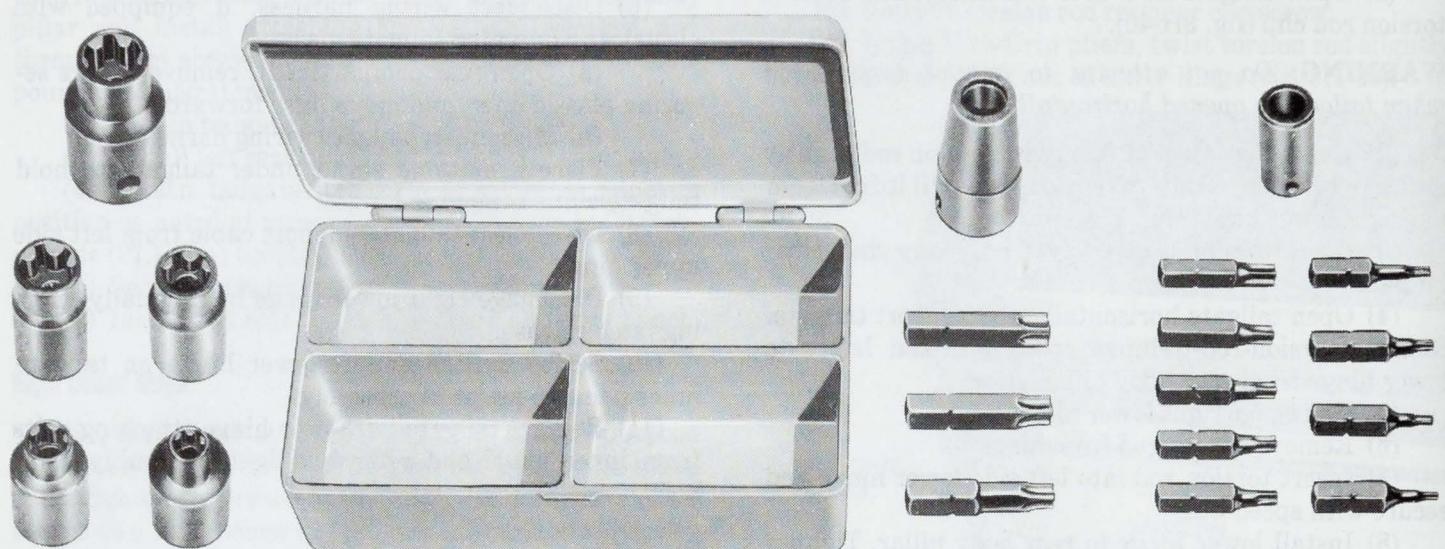
SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)	
	Service Set-To Torque	Service In-Use Torque	Service Set-To Torque
	Recheck Torque	Recheck Torque	Recheck Torque
Screw - Hinge Body Half to Body	27	20-37	20 ft-lbs. 15-27 ft-lbs.
Screw - Hinge Door Half to Door	27	20-37	20 ft-lbs. 15-27 ft-lbs.
Nut - Striker to Bracket	71	54-81	52 ft-lbs. 40-60 ft-lbs.
Screw - Bracket to Body	17	14-20	150 120-180
Screw - Window Regulator Assembly to Tailgate	10	9-11	90 80-100
Screw - Latch to Tailgate	5	5-7	45 40-60

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

70344E

Special Tools

J-25359-02
TORX BIT AND
SOCKET SET

50404B

CONCORD DECK COVERS

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Removal 3H-51	

RUBBER SEALER

The one-piece moulded sealers are bonded to the drain trough and joined at the lower deck center panel (fig. 3H-41).

The rubber sealer must contact the deck cover inner panel around the entire opening to afford a positive seal when the deck cover is in the closed position. Any irregularities in either the rubber sealer contact area of the deck lid inner panel or the drain trough can cause a water or dust leak into the trunk compartment.

Maintenance

Cold weather has a tendency to cause the rubber sealers to harden. Warm weather dries the lips of the sealer causing them to crack if they are not properly maintained.

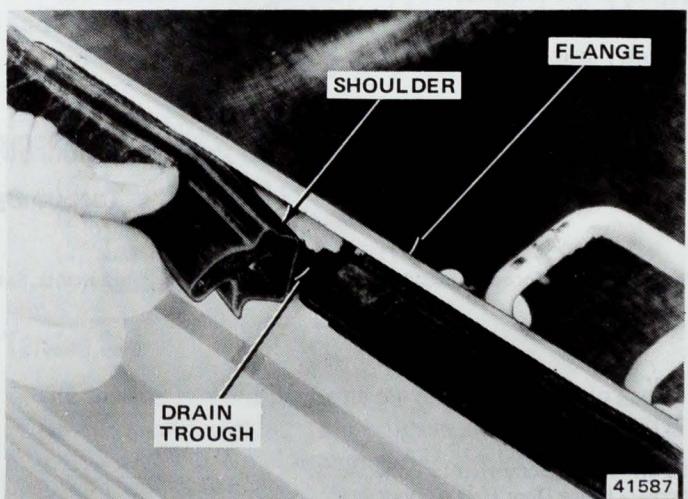


Fig. 3H-41 Deck Cover Rubber Sealer and Drain Trough

To prevent deterioration of sealers, they should be kept clean and free of foreign material. Lubricate the sealers with AMC Silicone Spray or equivalent. Lubricating the sealers helps keep them clean, prevents chafing when in contact with the deck cover, makes deck cover easier to close, and helps eliminate squeaks.

If the sealers have become excessively dry, it may be necessary to treat them with a second application of silicone.

NOTE: Do not use graphite, brake fluid, or wax on rubber sealers.

Checking Sealer-to-Cover Contact

(1) Coat deck cover inner panel with tracing powder or chalk.

(2) Close deck cover. Powder (or chalk) will transfer to rubber sealer showing areas contacted by deck cover inner panel.

(3) Adjust drain trough up or down as required using a wooden block and hammer.

Removal

(1) Apply 3M Release Agent or equivalent to soften adhesive bond.

(2) Using snorkel tube furnished with Release Agent, spray between drain trough and rubber sealer. Allow approximately 2 or 3 minutes for penetration and softening of adhesive.

(3) Lift sealer from drain trough before solvent evaporates and adhesive resets.

(4) If sealer is torn or excessive adhesive remains in drain trough, remove residue with 3M General Purpose Adhesive Cleaner or equivalent.

Installation

(1) Remove protective powders from new sealer with 3M General Purpose Adhesive Cleaner or equivalent.

(2) Apply a 1/8-inch bead of 3M Super Weatherstrip Adhesive or equivalent in drain trough at bottom outer angle.

(3) Position one end of sealer in drain trough to either side of lock striker.

(4) Install sealer in full length of trough with fiber stick or similar tool. Do not stretch rubber.

(5) Cut excess at ends (fig. 3H-35) and bond together to provide neat butt joint with Loctite Vinyl Adhesive 8127960 or equivalent.

LOCK SYSTEM

Striker Adjustment

(1) Loosen two lock striker attaching screws.

(2) Lower striker to pull deck cover down more securely on rubber sealer. Raise striker if too much force

is required to close the deck cover or if key requires excessive effort to open lock.

(3) Check deck cover alignment.

NOTE: Lock must enter striker without shifting or binding cover in closed position (fig. 3H-42).

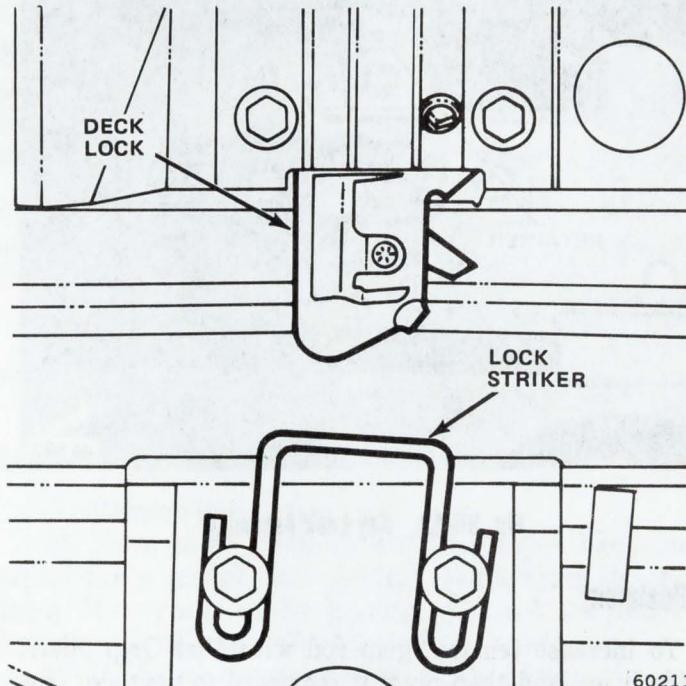


Fig. 3H-42 Striker Alignment

(4) Tighten two lock striker attaching screws to 110 inch-pounds (12.4 Nm) torque.

NOTE: Refer to Chapter 3J for detailed procedures on servicing lock cylinders and tumblers.

The lock cylinder should be cleaned and lubricated before installation. Use alcohol or benzol for cleaning, then blow out with compressed air. AMC Silicone lubricant or equivalent is recommended for lubrication.

Removal

(1) Insert flat screwdriver blade through opening in deck cover inner panel and pry retainer from lock assembly (fig. 3H-43).

(2) Pull out lock assembly.

Installation

(1) Install lock shaft into hole in latch assembly or position lock cam to left of deck lock. Release lever as applicable.

(2) Install retainer.

TORSION RODS

Torsion rods are used to assist in raising the deck cover and holding it open on Hornets and Matador Coupes.

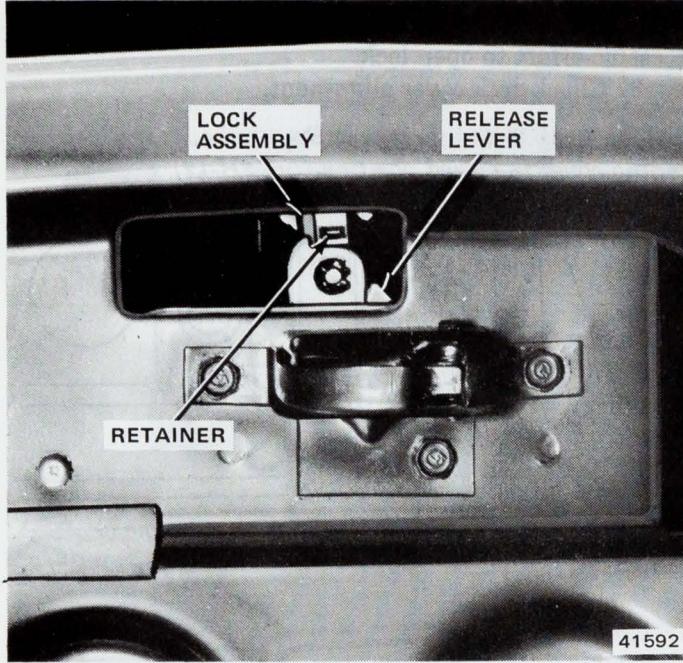


Fig. 3H-43 Key Lock Assembly

Adjustment

To increase tension, grip rod with Vise-Grip pliers, slide it up, and then pivot it rearward to next slot (fig. 3H-44).

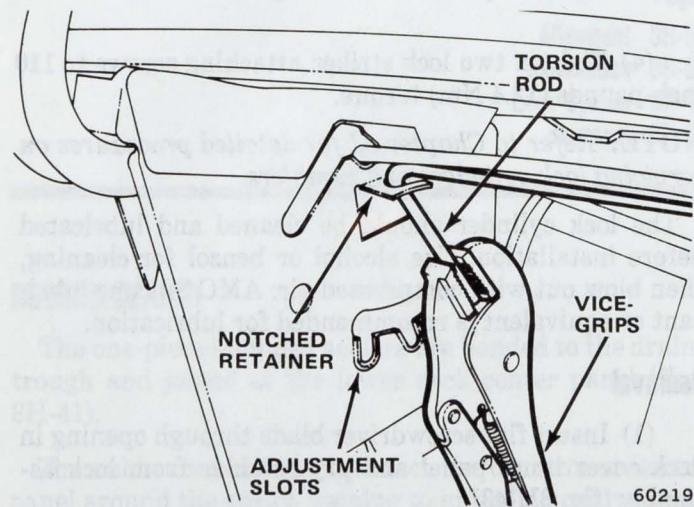


Fig. 3H-44 Deck Cover Torsion Rod Adjustment

To decrease tension, grip rod with Vise-Grip pliers, slide it up, and then pivot it forward to next slot.

Removal

NOTE: The torsion rod for the right hinge is anchored on the left hinge mounting assembly and the torsion rod for the left hinge is anchored on the right hinge mounting assembly.

- (1) Support deck cover.
- (2) Remove anti-rattle clip in center of rods.
- (3) Relax tension on rod by moving it to foremost position (fig. 3H-44).
- (4) Attach Vise-Grip pliers to nonadjustable end of rod (fig. 3H-45).

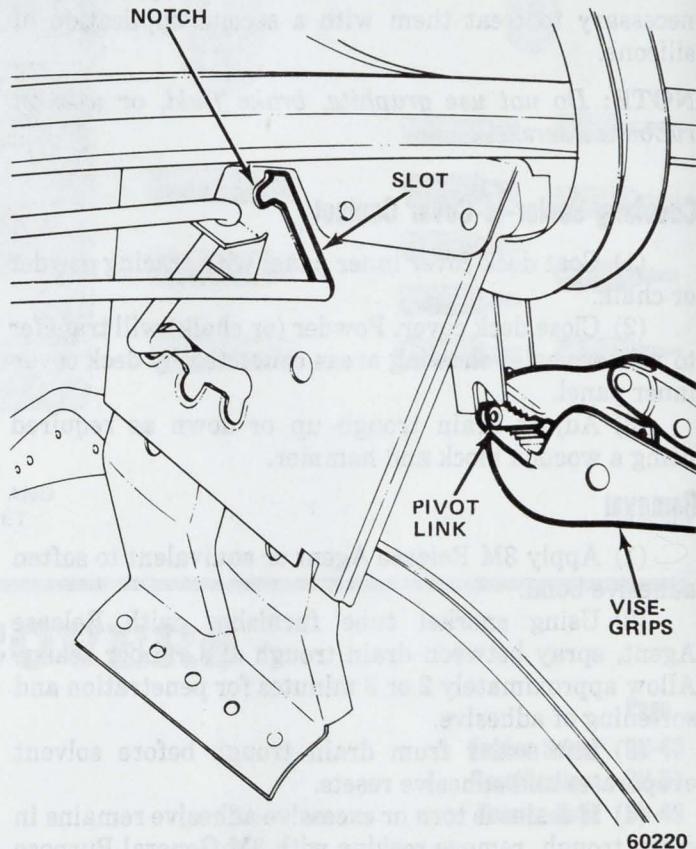


Fig. 3H-45 Torsion Rod Removal—Nonadjustable End

(5) Push down and forward on Vise-Grip pliers, at same time disengaging rod from notch at top, then lower rod to bottom of vertical slot.

(6) Disengage and swing pivot link forward and allow rod to rest against hinge arm.

(7) Clamp Vise-Grip pliers to adjustable end of rod and pivot rod forward and out of notched retainer. At same time, flex rod forward and down to bypass retainer (fig. 3H-44).

(8) Slide rod toward opposite side.

(9) Unhook rod from hinge bracket and remove.

Installation

(1) Install nonadjustable end through slot and insert end under hinge arm.

(2) Attach adjustable end of rod in forward adjustment slot of support bracket.

(3) Hook rod into notched retainer.

(4) Grip nonadjustable end of rod with Vise-Grips.

(5) Engage rod end into notch cut out of pivot link.

- (6) Push forward on Vise-Grip and apply slight pressure upward until rod moves to top of slot and engages notch.
- (7) Adjust torsion rod to desired tension.
- (8) Install anti-rattle clip in center of rods.
- (9) Remove deck cover support.

Removal

- (1) Scribe lines on cover next to hinge and at back of hinge to assist in installation.
- (2) With assistant holding deck cover, remove hinge-to-cover attaching screws.
- (3) Lift off cover.

Installation

- (1) Position cover on hinges and install screws loosely in lid.
- (2) Align scribed lines with edge of hinge and tighten screws.
- (3) Check position of deck cover and adjust if necessary. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

Alignment

Gap Adjustment

- (1) Loosen hinge-to-deck cover screws.
- (2) Shift cover to obtain desired gap (front-to-rear or side-to-side).

- (3) Tighten hinge-to-deck cover screws to 110 inch-pounds (12.4 Nm) torque.

Front Surface Adjustment

- (1) Loosen hinge-to-deck cover screws.
- (2) Move deck cover up by placing a shim of desired thickness between cover and forward hinge attaching screws. Move deck cover down by placing a shim of desired thickness between cover and rear hinge attaching screw.

NOTE: A 1/8-inch shim at rear screw lowers front of cover approximately 1/8 inch. A 1/8-inch shim at front screw raises front of cover approximately 1/4 inch.

- (3) Tighten hinge-to-deck cover screws to 110 inch-pounds (12.4 Nm) torque.

Rear Surface Adjustment

- (1) Remove lock striker.
- (2) Move cover down by placing wooden block **on top** of drain trough and carefully hammering trough down. Move cover up by placing wooden block **under** drain trough and carefully hammering trough up.
- (3) Hold deck cover closed and check alignment.
- (4) Install lock striker and adjust for proper opening and closing effort and for alignment with sealer. Tighten striker screws to 110 inch-pounds (12.4 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Deck Door Latch Assembly	7.3	6-9	65	55-80
Deck Door Latch Striker Assembly	12.4	10-15	110	90-130
Deck Door Hinge to Deck Lid	12.4	10-15	110	90-130

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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MATADOR DECK COVERS

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RUBBER SEALER

The one-piece moulded sealers are bonded to the drain trough and joined at the lower deck center panel (fig. 3H-46).

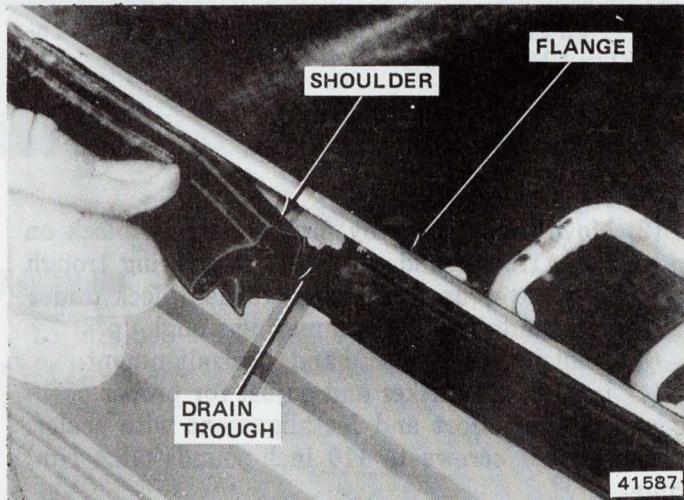


Fig. 3H-46 Deck Cover Rubber Sealer and Drain Trough

The rubber sealer must contact the deck cover inner panel around the entire opening to afford a positive seal when the deck cover is in the closed position. Any irregularities in either the rubber sealer contact area of the deck lid inner panel or the drain trough can cause a water or dust leak into the trunk compartment.

Maintenance

Cold weather has a tendency to cause the rubber sealers to harden. Warm weather dries the lips of the sealer causing them to crack if they are not properly maintained.

To prevent deterioration of sealers, they should be kept clean and free of foreign material. Lubricate the sealers with AMC Silicone Spray or equivalent. Lubricating the sealers helps keep them clean, prevents chafing when in contact with the deck cover, makes deck cover easier to close, and helps eliminate squeaks.

If the sealers have become excessively dry, it may be necessary to treat them with a second application of silicone.

NOTE: Do not use graphite, brake fluid, or wax on rubber sealers.

Checking Sealer-to-Cover Contact

- (1) Coat deck cover inner panel with tracing powder or chalk.
- (2) Close deck cover. Powder (or chalk) will transfer to rubber sealer showing areas contacted by deck cover inner panel.
- (3) Adjust drain trough up or down as required using a wooden block and hammer.

Removal

- (1) Apply 3M Release Agent or equivalent to soften adhesive bond.
- (2) Using snorkel tube furnished with Release Agent, spray between drain trough and rubber sealer. Allow approximately 2 or 3 minutes for penetration and softening of adhesive.
- (3) Lift sealer from drain trough before solvent evaporates and adhesive resets.
- (4) If sealer is torn or excessive adhesive remains in drain trough, remove residue with 3M General Purpose Adhesive Cleaner or equivalent.

Installation

- (1) Remove protective powders from new sealer with 3M General Purpose Adhesive Cleaner or equivalent.
- (2) Apply a 1/8-inch bead of 3M Super Weatherstrip Adhesive or equivalent in drain trough at bottom outer angle.
- (3) Position one end of sealer in drain trough to either side of lock striker.
- (4) Install sealer in full length of trough with fiber stick or similar tool. Do not stretch rubber.
- (5) Cut excess at ends (fig. 3H-46) and bond together to provide neat butt joint with Loctite Vinyl Adhesive 8127960 or equivalent.

LOCK SYSTEM

Striker Adjustment

- (1) Loosen two lock striker attaching screws.
- (2) Lower striker to pull deck cover down more securely on rubber sealer. Raise striker if too much force

is required to close the deck cover or if key requires excessive effort to open lock.

- (3) Check deck cover alignment.

NOTE: Lock must enter striker without shifting or binding cover in closed position (fig. 3H-47).

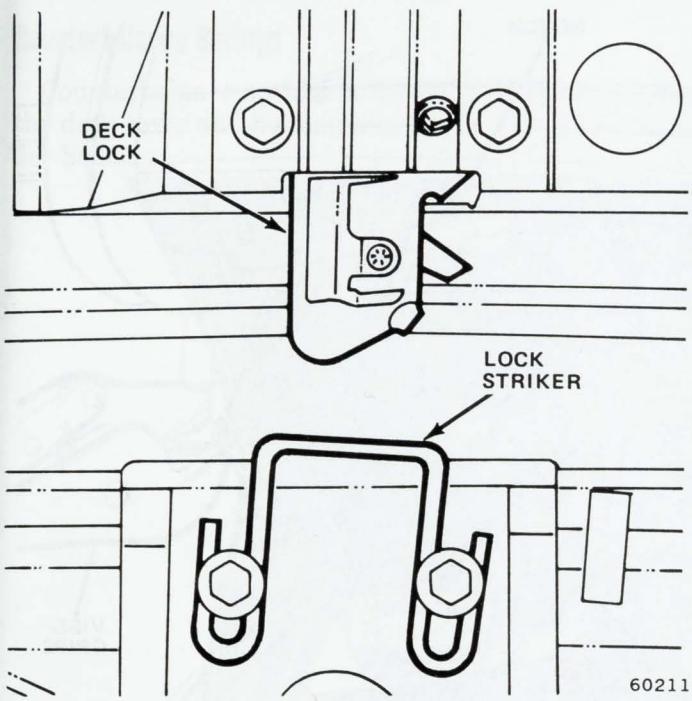


Fig. 3H-47 Striker Alignment

- (4) Tighten two lock striker attaching screws to 110 inch-pounds (12.4 Nm) torque.

Lock Cylinder

NOTE: Refer to Chapter 3J for detailed procedures on servicing lock cylinders and tumblers.

The lock cylinder should be cleaned and lubricated before installation. Use alcohol or benzol for cleaning, then blow out with compressed air. AMC Silicone lubricant is recommended for lubrication.

Matador Coupe

Removal

- (1) Remove screw holding retainer.
- (2) Pull retainer from grooves in key lock assembly (fig. 3H-48).
- (3) Remove key lock assembly.

Installation

- (1) Position retainer in opening and install key lock assembly. Engage retainer with grooves in key lock assembly.
- (2) Install screw.

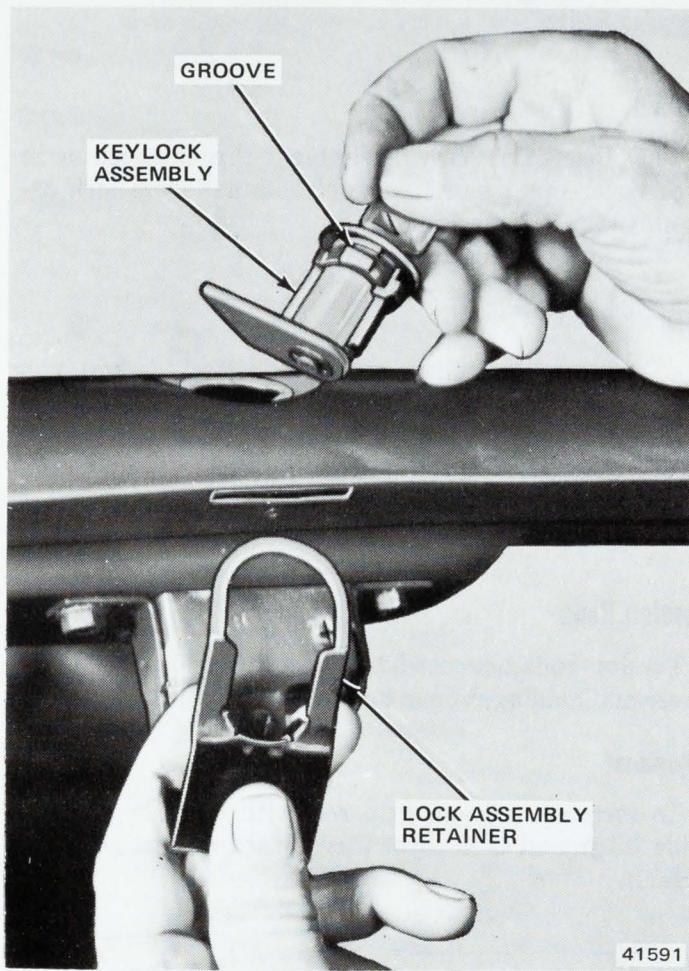


Fig. 3H-48 Key Lock Assembly—Matador Coupe

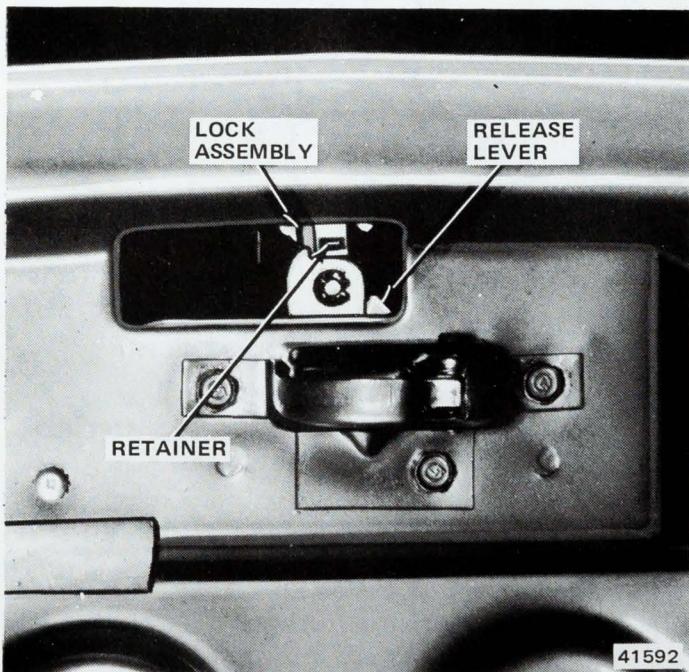


Fig. 3H-49 Key Lock Assembly—Matador Sedan

Matador Sedan**Removal**

- (1) Insert flat screwdriver blade through opening in deck cover inner panel and pry retainer from lock assembly (fig. 3H-49).
- (2) Pull out lock assembly.

Installation

- (1) Install lock shaft into hole in latch assembly or position lock cam to left of deck lock. Release lever as applicable.
- (2) Install retainer.

HINGE SYSTEM**Torsion Rods**

Torsion rods are used to assist in raising the deck cover and holding it open on Matador Coupes.

Adjustment

To increase tension, grip rod with Vise-Grip pliers, slide it up, and then pivot it rearward to next slot (fig. 3H-50).

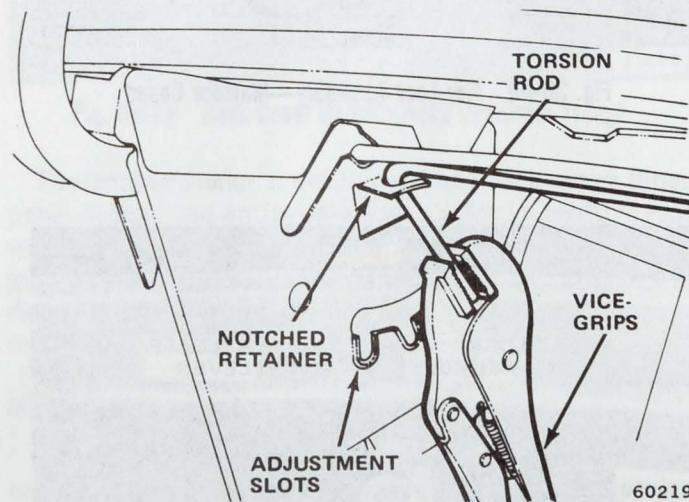


Fig. 3H-50 Deck Cover Torsion Rod Adjustment

To decrease tension, grip rod with Vise-Grip pliers, slide it up, and then pivot it forward to next slot.

Removal

NOTE: The torsion rod for the right hinge is anchored on the left hinge mounting assembly and the torsion rod for the left hinge is anchored on the right hinge mounting assembly.

- (1) Support deck cover.
- (2) Remove anti-rattle clip in center of rods.
- (3) Relax tension on rod by moving it to foremost position (fig. 3H-50).
- (4) Attach Vise-Grip pliers to nonadjustable end of rod (fig. 3H-51).

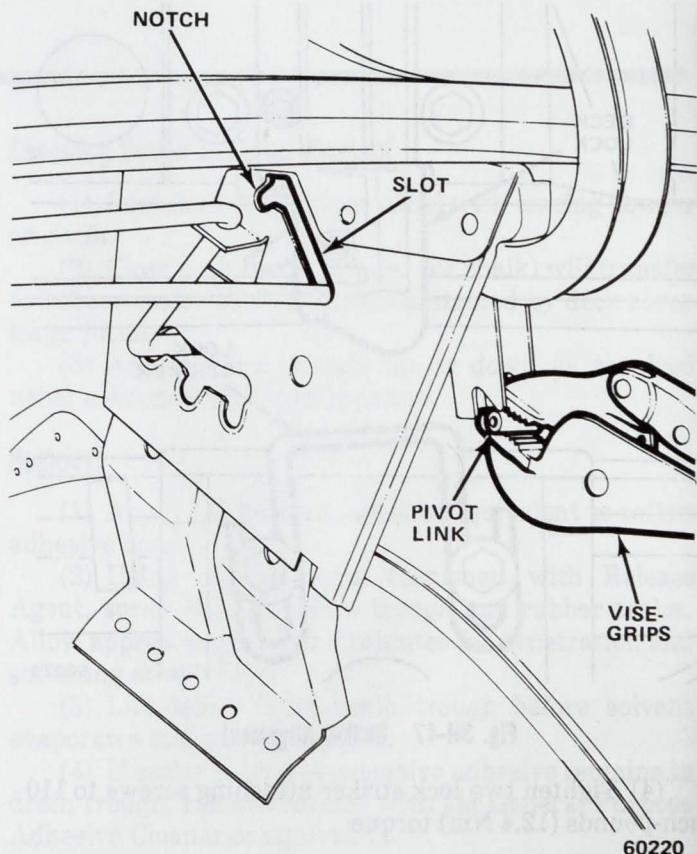


Fig. 3H-51 Torsion Rod Removal—Nonadjustable End

(5) Push down and forward on Vise-Grip pliers, at same time disengaging rod from notch at top, then lower rod to bottom of vertical slot.

(6) Disengage and swing pivot link forward and allow rod to rest against hinge arm.

(7) Clamp Vise-Grip pliers to adjustable end of rod and pivot rod forward and out of notched retainer. At same time, flex rod forward and down to bypass retainer (fig. 3H-50).

(8) Slide rod toward opposite side.

(9) Unhook rod from hinge bracket and remove.

Installation

(1) Install nonadjustable end through slot and insert end under hinge arm.

(2) Attach adjustable end of rod in forward adjustment slot of support bracket.

(3) Hook rod into notched retainer.

(4) Grip nonadjustable end of rod with Vise-Grips.

(5) Engage rod end into notch cut out of pivot link.

(6) Push forward on Vise-Grip and apply slight pressure upward until rod moves to top of slot and engages notch.

(7) Adjust torsion rod to desired tension.

(8) Install anti-rattle clip in center of rods.

(9) Remove deck cover support.

Counterbalance Springs

Counterbalance springs are used to assist in raising the deck cover and holding it open (fig. 3H-52) on Matador Sedans.

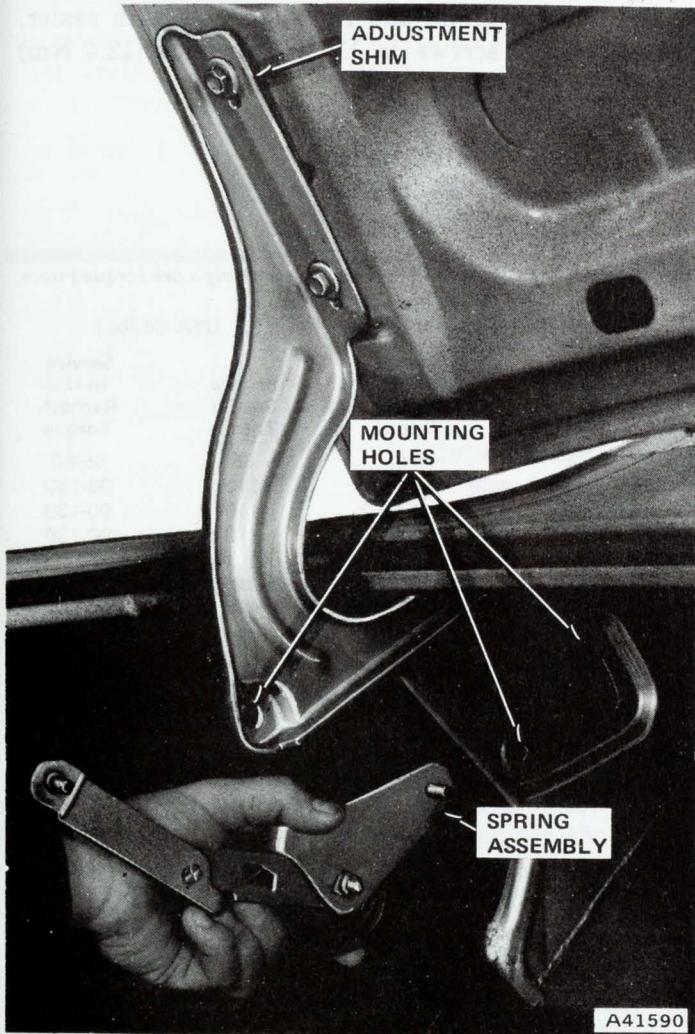


Fig. 3H-52 Deck Cover Hinge and Counterbalance Spring Assembly

Adjustment

(1) Loosen adjusting nut.

(2) Move adjusting nut downward to increase tension or upward to decrease tension.

(3) Tighten adjusting nut to 110 inch-pounds (12.4 Nm) torque.

Removal

(1) Support deck cover.

(2) Mark location of adjustment nut for installation purposes.

(3) Remove nuts and shoulder bolt and pull off spring assembly.

Installation

(1) Insert studs into holes in hinge and install nuts loosely.

(2) Tip rear of assembly up to align nut on adjustment slot to mark.

(3) Tighten both nuts and pull rear arm down.

(4) Insert shoulder bolt and nut.

(5) Remove deck cover support.

(6) Check deck cover for proper alignment and spring tension. Tighten adjusting nut to 110 inch-pounds (12.4 Nm) torque.

Hinges

Matador Coupe

Deck cover hinges are attached to the deck cover by two bolts and welded to the rear shelf extension panel. The hinge is serviced as an assembly.

Matador Sedan

The rear deck cover hinges are of stamped metal construction. The hinges are pinned in the center and are welded to the underside of the upper deck center panel and to the wheelhouse panel for rigid support. The hinge is serviced as an assembly.

REMOVAL, INSTALLATION AND ALIGNMENT

Removal

(1) Scribe lines on cover next to hinge and at back of hinge to assist in installation.

(2) With assistant holding deck cover, remove hinge-to-cover attaching screws.

(3) Lift off cover.

Installation

(1) Position cover on hinges and install screws loosely in lid.

(2) Align scribed lines with edge of hinge and tighten screws.

(3) Check position of deck cover and adjust if necessary. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

Alignment

Gap Adjustment

(1) Loosen hinge-to-deck cover screws.

(2) Shift cover to obtain desired gap (front-to-rear or side-to-side).

(3) Tighten hinge-to-deck cover screws to 110 inch-pounds (12.4 Nm) torque.

Front Surface Adjustment

- (1) Loosen hinge-to-deck cover screws.
- (2) Move deck cover up by placing a shim of desired thickness between cover and forward hinge attaching screws. Move deck cover down by placing a shim of desired thickness between cover and rear hinge attaching screw.

NOTE: A 1/8-inch shim at rear screw lowers front of cover approximately 1/8 inch. A 1/8-inch shim at front screw raises front of cover approximately 1/4 inch.

(3) Tighten hinge-to-deck cover screws to 110 inch-pounds (12.4 Nm) torque.

Rear Surface Adjustment

- (1) Remove lock striker.
- (2) Move cover down by placing wooden block **on top** of drain trough and carefully hammering trough down. Move cover up by placing wooden block **under** drain trough and carefully hammering trough up.
- (3) Hold deck cover closed and check alignment.
- (4) Install lock striker and adjust for proper opening and closing effort and for alignment with sealer. Tighten striker screws to 110 inch-pounds (12.4 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Deck Door Latch Assembly	7	6-9	65	55-80
Deck Door Latch Striker	12	10-15	110	90-130
Deck Door Hinge Spring, Adjusting Nuts	12	10-15	110	90-130
Deck Door Hinge to Deck Door	12	10-15	110	90-130

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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3J DOORS

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PACER FRONT DOORS

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DOOR TRIM

Window Regulator Handles

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen head screw. To remove the handle, remove the screw, pull the handle straight off the shaft, and remove the nylon washer, if equipped.

Install the handle with the knob forward, the handle horizontal and the glass all the way up. Install the attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

Trim Panels

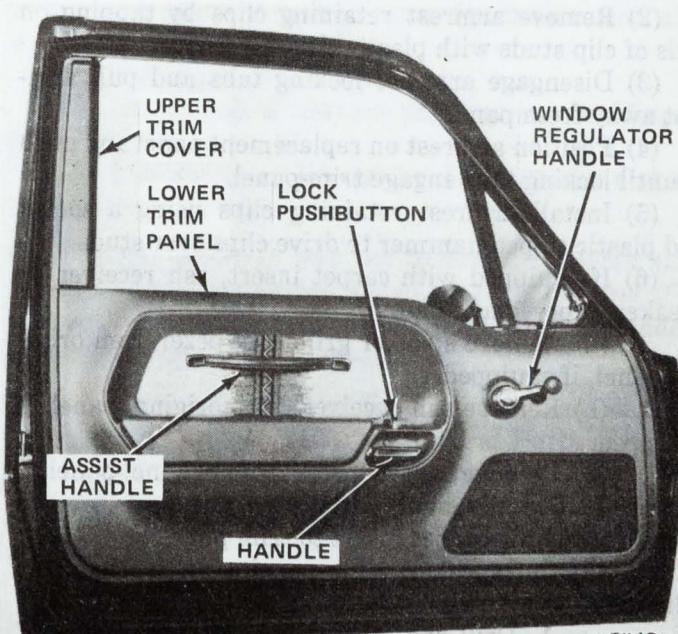
The trim panels (fig. 3J-1) are made of molded colored plastic material to match the interior. Decorative inserts and various trim options including trim panel overlays and mouldings are attached to the panel. The overlays are bonded or stapled to the door trim panel. The trim panel is attached to the door inner panel by screws.

Lower Panel Removal

- (1) Remove window regulator handle (fig. 3J-1).
- (2) Remove remote control handle using Torx Bit Tool J-25359-02.

(3) Push lock pushbutton down into locked position and remove pushbutton.

(4) Remove remote control mirror escutcheon, if equipped.



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Fig. 3J-1 Door Interior Components

- (5) Remove assist handle, if equipped.
 - (a) Pry off metal cover at ends.
 - (b) Remove screws and assist handle.
- (6) Remove trim panel attaching screws located around outer edge, in handle pocket and on top adjacent to weatherstrip.
- (7) Remove trim panel by pulling out and up to disengage panel from inner door panel top flange.

Lower Panel Installation

CAUTION: Position remote control mirror handle in the forward position before installing trim panel to prevent bending or breaking handle.

- (1) Position trim panel on door with lip of panel fully engaged on inner door panel top flange.
- (2) Install trim panel attaching screws.
- (3) Install remote control mirror escutcheon, if equipped.
- (4) Install assist handle, if equipped.
 - (a) Position handle on trim panel and install and tighten attaching screws.
 - (b) Snap metal covers over ends.
- (5) Install lock pushbutton and pull up into unlocked position.
- (6) Install remote control handle using Torx Bit Tool J-25359-02.
- (7) Roll window up, correctly position window regulator handle and install attaching screw. Tighten screw to 40 inch-pounds (4.5 Nm) torque.

Lower Panel Replacement

- (1) Remove trim panel.
- (2) Remove armrest retaining clips by tapping on ends of clip studs with plastic tipped hammer.
- (3) Disengage armrest locking tabs and pull armrest away from panel.
- (4) Position armrest on replacement panel and push in until locking tabs engage trim panel.
- (5) Install armrest retaining clips using a socket and plastic tipped hammer to drive clips over studs.
- (6) If equipped with carpet insert, ash receiver or speaker, proceed as follows:
 - (a) Remove speaker grille and bezel from original panel, if equipped.
 - (b) Remove ash receiver from original panel, if equipped.
 - (c) Remove carpet insert from original panel, if equipped. Use diagonal cutters to cut and remove staples attaching carpet insert to trim panel.
 - (d) Cut speaker grille opening in replacement trim panel as follows:
 1. Drill one starter hole at each corner of speaker grille outline provided on backside of replacement panel. Do not drill beyond outline.

2. Using sharp knife, hacksaw blade or soldering gun with plastic-cutting tip, cut speaker grille opening.
3. File edges of opening to remove rough areas and to round off corners.
- (e) Install carpet insert on replacement panel, if equipped, using 3M Super Weatherstrip Adhesive or equivalent.
- (f) Install speaker grille and bezel on replacement panel, if equipped.
- (g) Using ash receiver as a template, position on replacement panel, and drill two 3/16-inch diameter holes for pop-rivets. Insert 3/16-inch pop-rivets into backside of panel and secure ash receiver. Install ash receiver snuffer box.
- (7) If equipped with vent window proceed as follows:
 - (a) Measure back 8-3/8 inches back from front edge of weatherstrip on replacement panel and make a mark.
 - (b) Cut rubber portion of weatherstrip using diagonal cutters.
 - (c) Insert a piece of scrap sheet metal between weatherstrip and trim panel to prevent damage to panel during following cutting operation.
 - (d) Cut metal portion of weatherstrip using hacksaw.
 - (e) Cut and remove staples attaching front piece of weatherstrip to trim panel.
 - (f) File rough edges on end of weatherstrip metal.
- (8) If equipped with litter bag proceed as follows:
 - (a) Remove litter bag and turn-buttons from original panel.
 - (b) Straighten turn-button attaching tabs.
 - (c) Position litter bag on replacement panel and mark turn-button location.
 - (d) Remove litter bag and place turn-buttons over locating marks made with litter bag.
 - (e) Mark and drill four 3/16-inch diameter holes in replacement panel for turn-button tabs.
 - (f) Install turn-buttons and litter bag on replacement panel.
- (9) If equipped with remote control mirror proceed as follows:
 - (a) Establish a common reference point on original and replacement panels.
 - (b) Using reference point, tape or hold a piece of paper over remote control mirror opening of original panel.
 - (c) Turn panel over and trace outline of opening onto paper.
 - (d) Remove paper from panel and cut around outline to form a template.
 - (e) Position template on replacement panel, aligning paper with reference point.

(f) Mark opening on replacement panel and cut out using a drill or soldering gun with plastic-cutting tip.

(g) File to correct size and shape.

(10) If equipped with padded insert proceed as follows:

(a) Straighten insert retaining clips and remove washers from clips.

(b) Remove insert from original panel.

(c) Remove retaining clips from insert.

(d) Position insert on replacement panel. Align lower front edge of insert with rear edge of door push-button grommet.

(e) Mark assist handle hole locations and remove insert.

(f) Drill two 1/2-inch diameter holes for assist handle.

(g) On backside of insert, in each retaining clip position, place a piece of body caulk or similar material.

(h) Position insert on replacement panel, aligning holes in insert with holes drilled for assist handle.

(j) Press down on insert at each retaining clip position.

(k) Remove insert from trim panel. Hole locations will be indicated by transfer of body caulk to trim panel or by stain left by body caulk.

(l) Mark clip locations and drill holes using 1/4-inch diameter drill.

(m) Install retaining clips on insert.

(n) Install insert on replacement panel.

(p) Install washers over retaining clips.

(q) Pull insert tight against trim panel by bending retaining clips with needlenose pliers.

(11) Cut foam tape supplied with door trim panel attaching kit into lengths of approximately two inches.

(12) Remove backing paper from foam tape and install tape on backside of trim panel over attaching screw notches cut into vertical edges of panel.

NOTE: Do not allow tape to extend over edge of trim panel.

(13) Install trim panel.

CAUTION: Screws supplied with door trim panel attaching kit must be used at notch locations backed with foam tape.

Upper Cover Removal

(1) Remove lower trim panel.

(2) Remove screws attaching bottom of trim cover to door inner panel.

(3) Carefully pull cover out and forward to disengage cover from clips and door frame.

Upper Cover Installation

(1) Engage offset on cover with edge of door frame.

(2) Engage tabs on cover with clips in door frame and push cover to fully engage clips.

(3) Install screws attaching bottom of trim cover to door inner panel.

(4) Install lower trim panel.

EXTERIOR MOULDINGS

Metal Mouldings

All metal mouldings are attached with plastic clips; however, some mouldings are also fastened with a T-bolt and acorn nut at each end.

Replacement

(1) Remove acorn nut from T-bolt, if equipped.

(2) Pry moulding off clip using fiber or wooden stick.

(3) Remove door plastic moulding clips.

(4) Install replacement door plastic clips.

(5) Press moulding onto clips.

(6) Install acorn nuts on T-bolts, if equipped.

Vinyl Mouldings

Replacement

(1) Use 3M Release Agent, or equivalent, to soften adhesive bond.

(a) Using snorkel tube, spray between moulding and door panel.

(b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.

(2) Peel moulding from panel.

(3) Attach end of string to panel where moulding is to be applied.

(4) Run string at desired level along panel and attach at end with tape.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine if a solvent will damage the paint, test solvent on a hidden area of the car.

(5) Clean adhesive residue and wax from surface with cloth dampened with 3M General Purpose Adhesive Cleaner, isopropyl alcohol, or equivalent.

NOTE: Surface must be clean and dry for moulding to adhere.

(6) Heat metal to minimum 68°F with heat gun J-25070 or heat lamp.

CAUTION: Do not install vinyl protective mouldings on fresh paint that has not been properly cured.

(7) Position moulding with backing paper on car and cut to desired length.

(8) Peel backing paper and press moulding to body of car, parallel with string.

(9) Firmly press moulding to body with roller or heavy hand pressure.

(10) Remove string.

(11) Check door opening; if necessary, trim moulding with razor blade.

(12) If moulding comes loose, apply 3M Plastic and Emblem Adhesive, or equivalent, to back surface of moulding and press firmly to body. Pull bond apart and allow to remain open 10 to 15 seconds. Press moulding firmly back on door panel and hold in position for 10 seconds.

SEALING SYSTEM

The front door sealing system consists of water dam paper and various weatherstrips which seal the door and door opening from water and wind leaks. Refer to Chapter 3A for water and wind leak diagnosis.

Window Belt Weatherstrips

The outer weatherstrip is a flocked, black-rubber strip used at the belt line. It is fastened into slotted holes with barbed spring tension clips. The inner weatherstrip is stapled to the trim panel.

Removal

(1) Pull weatherstrip from door flange at retaining clips.

(2) Insert screwdriver into retaining slots and slightly distort slots (fig. 3J-2).

(3) Lift and remove weatherstrip.

NOTE: To remove trim panel weatherstrip, remove door trim panel and staples securing weatherstrip to panel.

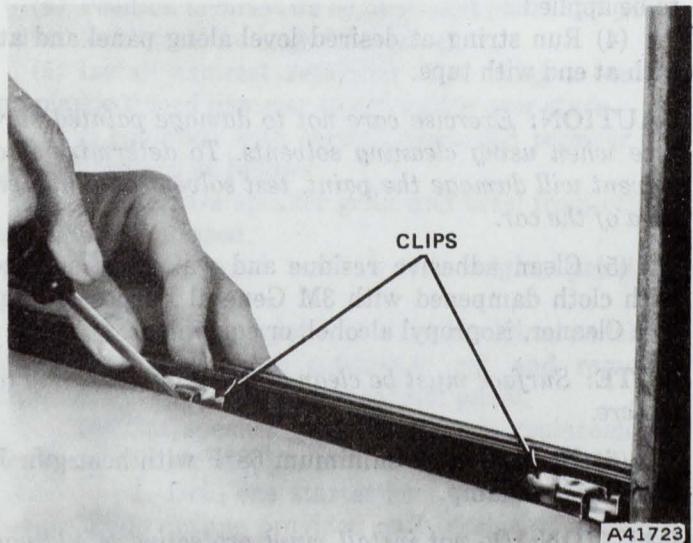


Fig. 3J-2 Clip Removal

Installation

(1) Straighten each weatherstrip clip retaining slot.

(2) Insert center section of each clip into each door flange slot.

(3) Install weatherstrip on door flange at retaining clips.

NOTE: To replace the door trim panel weatherstrip, drill three 1/8-inch diameter holes through the weatherstrip and trim panel flange and fasten the weatherstrip with 1/8-inch diameter pop rivets.

Water Dam Paper

Waterproof water dam paper (fig. 3J-3) is attached to the door inner panel with a bead of adhesive sealer. To avoid tearing the paper during removal, use a putty knife to separate the paper and sealer from the inner panel.

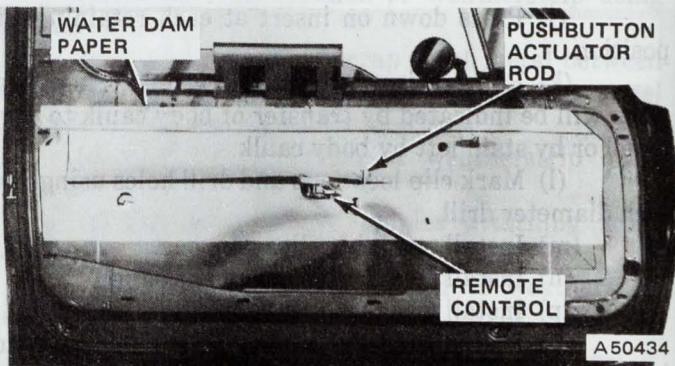


Fig. 3J-3 Water Dam Paper Installation—Typical

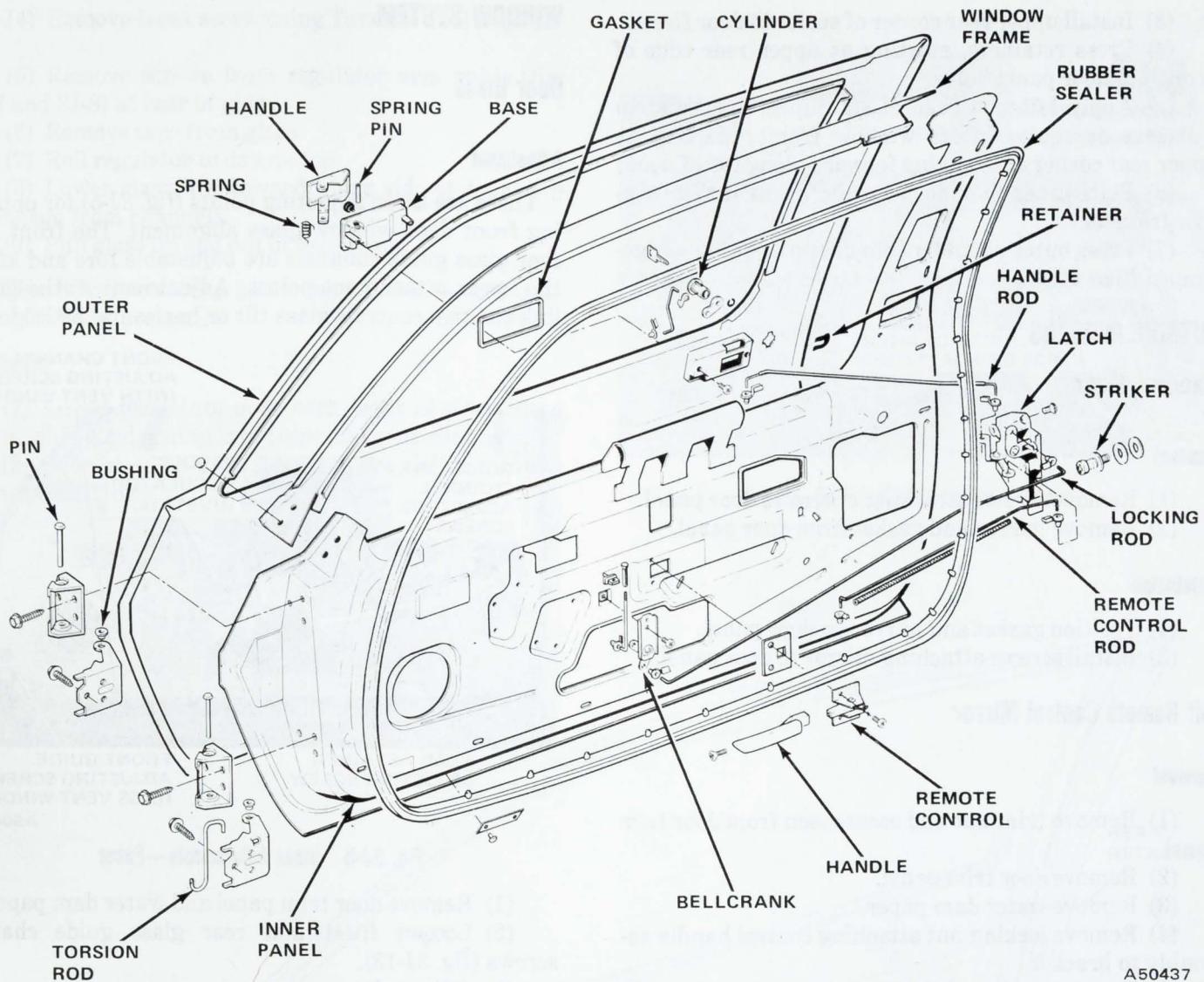
Scuff Plate

The aluminum scuff plate, attached to the body sill, acts as a stepping plate and provides a finished appearance to the bottom of the door opening. Oval-head screws retain the scuff plate to the body.

Door and Window Frame Rubber Sealers

The door rubber sealer (fig. 3J-4) is made of molded latex foam with a smooth rubber skin on the outside. Plastic retainers are used to attach the rubber sealer to the back edge and below the door belt line. Barbs on the retainers depress when inserted in the holes and spread when fully inserted.

Two types of plastic retainers are used to retain the rubber sealer to the door below the belt line. One threads into a nonstretchable tape moulded into the rubber sealer while the other has a T-stud which is hooked into the rubber sealer. Barbs on the fasteners depress when inserted in the holes and spread when fully inserted.



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Fig. 3J-4 Door Components—Pacer

Replacement Rubber Sealer

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

Maintenance of Rubber Sealers

Cold weather may cause the door rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth to clean rubber sealers. Clean dirt from the body pillars and from all points where the rubber sealer contacts the body. Apply AMC Silicone Spray Lubricant or equivalent to rubber sealers.

CAUTION: Do not use graphite, brake fluid, or wax on rubber sealers.

Removal

- (1) Carefully remove rubber sealer (fig. 3J-4) from door using needlenose pliers to remove plastic retainers from door panel holes.

- (2) Use 3M Release Agent or equivalent to soften adhesive bond.

- (a) Using snorkel tube, spray between sealer and window frame.

- (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.

- (3) Pull sealer carefully from frame before solvent evaporates and adhesive resets.

Installation

- (1) Remove dust and dirt from rubber sealer, door, and door frame.

- (2) Remove adhesive residue from door window frame with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent.

- (3) Install upper rear corner of sealer to door first.
- (4) Press retainers, starting at upper rear edge of door, into door panel holes.
- (5) Apply 1/8-inch bead of 3M Super Weatherstrip Adhesive or equivalent to window frame, starting at upper rear corner and moving forward along top of door.
- (6) Place inner shoulder of sealer in channel-to-window frame.
- (7) Press outer shoulder into channel with a wedge-shaped fiber stick.

OUTSIDE MIRRORS

Standard Mirror

Removal

- (1) Remove screws attaching mirror to door panel.
- (2) Remove mirror and gasket from door panel.

Installation

- (1) Position gasket and mirror on door panel.
- (2) Install screws attaching mirror to door panel.

Left Remote Control Mirror

Removal

- (1) Remove trim nut and escutcheon from door trim panel.
- (2) Remove door trim panel.
- (3) Remove water dam paper.
- (4) Remove locking nut attaching control handle assembly to bracket.
- (5) Remove screws attaching remote mirror to door panel.

NOTE: Check and note routing of remote mirror control cables before removing mirror assembly from door panel.

- (6) Remove remote mirror and gasket from door panel.

Installation

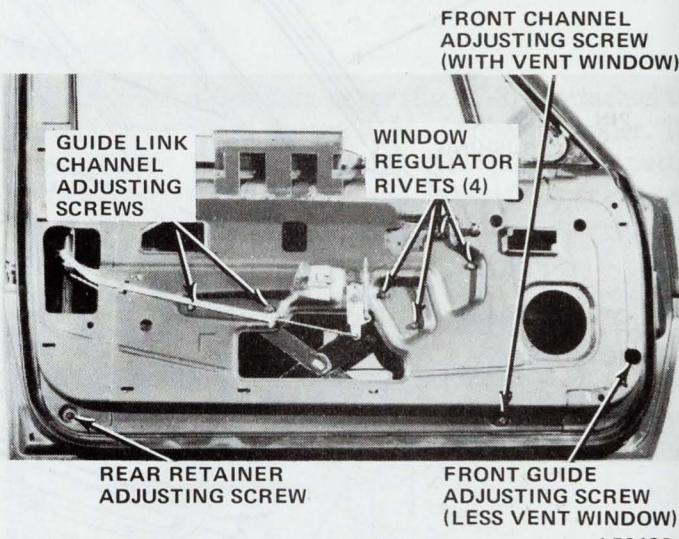
- (1) Assemble remote mirror and gasket.
- (2) Insert remote mirror control cables into door outer panel and duplicate routing of control cables into door inner panel as previously noted during removal.
- (3) Install screws attaching remote mirror to door panel.
- (4) Install locking nut attaching control handle assembly to bracket.
- (5) Check mirror operation before proceeding.
- (6) Install water dam paper.
- (7) Install door trim panel.
- (8) Install escutcheon and trim nut on door trim panel.

WINDOW SYSTEM

Door Glass

Adjustment

There are three adjusting points (fig. 3J-5) for obtaining front door window glass alignment. The front and rear glass guide channels are adjustable fore and aft at the lower attachment points. Adjustment at the guide link channel controls glass tilt or horizontal attitude.



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Fig. 3J-5 Glass Adjustments—Pacer

- (1) Remove door trim panel and water dam paper.
- (2) Loosen front and rear glass guide channel screws (fig. 3J-13).
- (3) Adjust glass.

NOTE: Moving of front and rear guide channels fore and aft reduces or increases free play between channels.

- (4) Loosen guide link channel adjusting screws.

NOTE: Moving guide link channel upward moves the forward regulator arm down, raises the rear portion of the glass, and lowers the front portion. Moving guide link channel down moves the forward regulator arm up, lowers the rear portion of the glass, and raises the front portion.

- (5) Tighten all adjusting components (refer to Torque Specifications).
- (6) Install water dam paper and door trim panel.

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Position glass with screws (fig. 3J-6) visible through upper access holes.
- (3) Apply masking tape to each side of glass over top of door panel to keep glass from falling during regulator arm removal.

- (4) Remove front screw using Torx Bit Tool J-25359-02.
- (5) Remove screws from regulator arm guide (fig. 3J-7 and 3J-8) at rear of glass.
- (6) Remove tape from glass.
- (7) Roll regulator to down-stop.
- (8) Lower glass, tilt toward hinge side of door, and disengage from channels.
- (9) Pull glass up and out of door panel.

NOTE: When removing glass, keep glass toward outside of window frame.

Installation

- (1) Lower glass into door with front of glass tilted down, while positioning into front and rear channels.
- (2) Slide glass up until fasteners are visible through upper access holes.

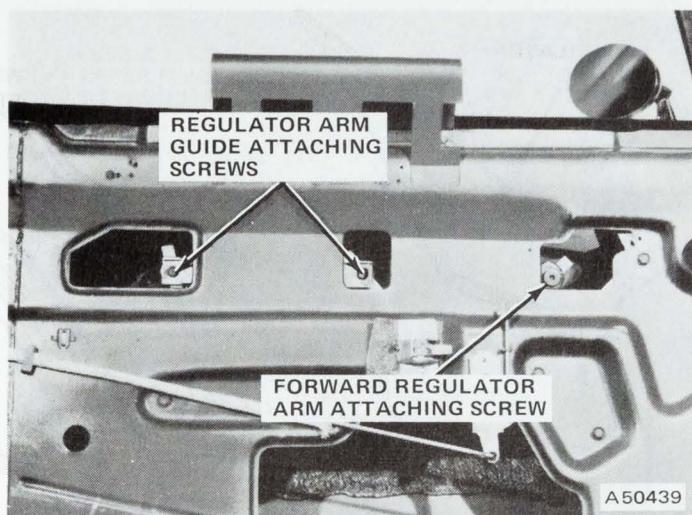
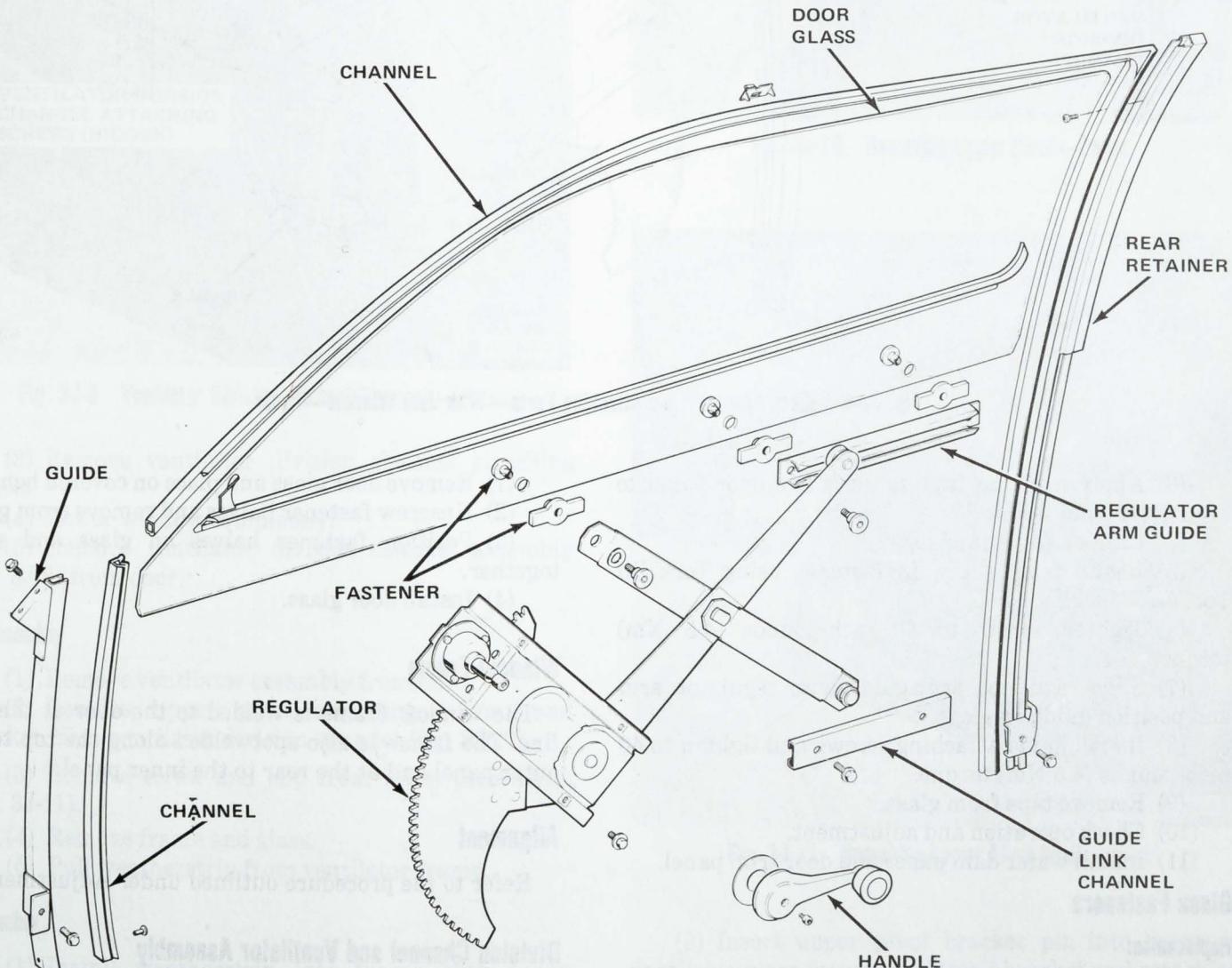
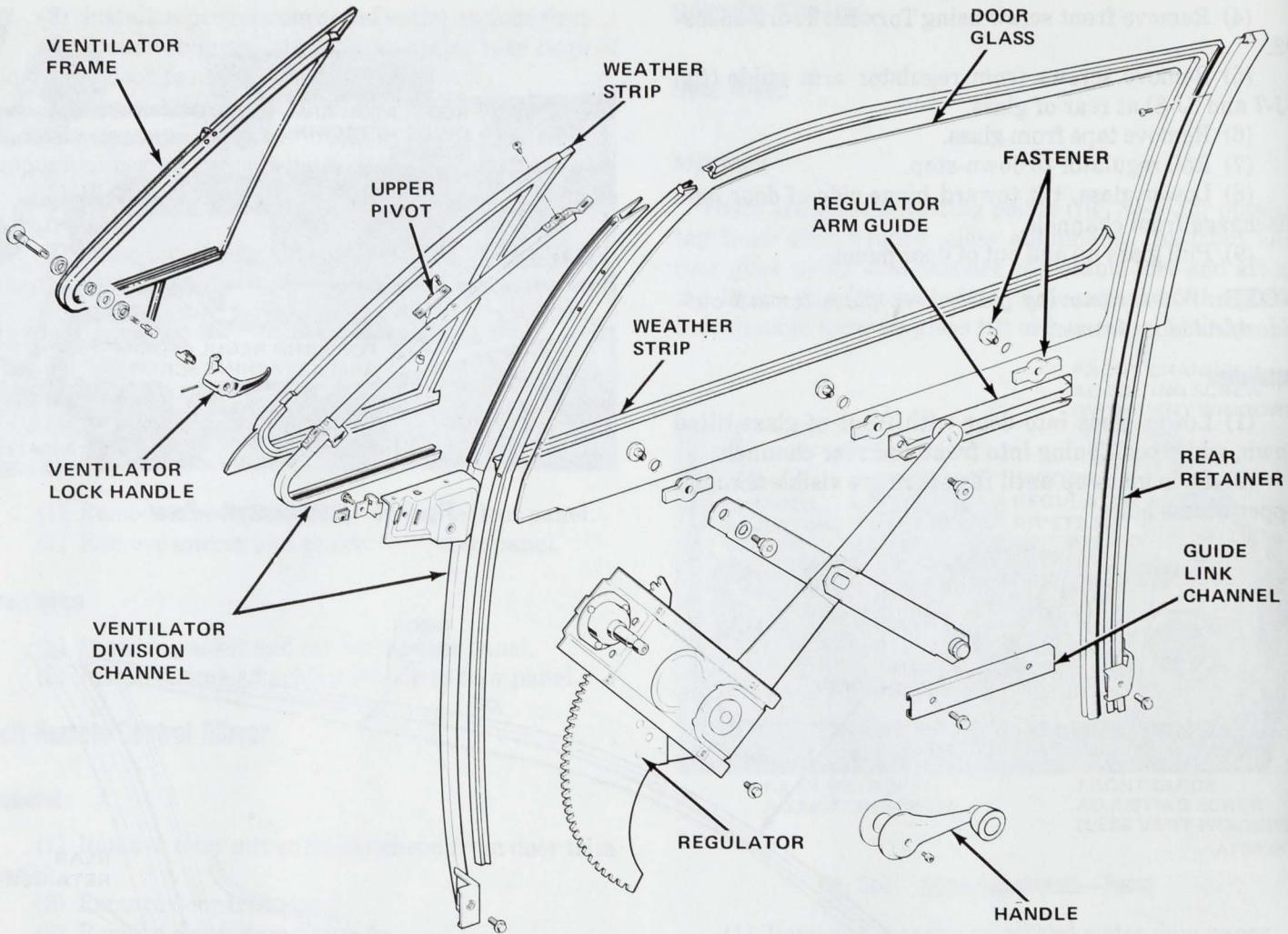


Fig. 3J-6 Glass Removal—Pacer



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Fig. 3J-7 Glass Assembly and Attaching Parts—Less Vent Window—Pacer



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Fig. 3J-8 Glass Assembly and Attaching Parts—With Vent Window—Pacer

- (3) Apply masking tape to glass and door panel to keep glass from falling.
- (4) Crank regulator arms up.
- (5) Install front screw in fastener using Torx Bit Tool J-25359-02.
- (6) Tighten screw to 40 inch-pounds (4.5 Nm) torque.
- (7) Slide regulator arm guide onto regulator arm and position guide on glass.
- (8) Install guide attaching screws and tighten to 40 inch-pounds (4.5 Nm) torque.
- (9) Remove tape from glass.
- (10) Check operation and adjustment.
- (11) Install water dam paper and door trim panel.

Glass Fasteners

Replacement

NOTE: The front door glass contains plastic fasteners for attaching the window regulator arms and regulator arm guides.

- (1) Remove door glass and place on covered bench.
- (2) Unscrew fastener halves and remove from glass.
- (3) Position fastener halves on glass and screw together.
- (4) Install door glass.

Window Frame

The window frame is welded to the door at the belt line. The frame is also spotwelded along the top to the outer panel and at the rear to the inner panel.

Alignment

Refer to the procedure outlined under Adjustment.

Division Channel and Ventilator Assembly

The front door division channel, part of the ventilator assembly, has a door glass slide channel on one side and a rubber sealer on the ventilator side. The ventilator

assembly is fastened to the front of the door window frame with screws, and to the door inner panel with a screw at the top and a mounting bracket and screw near the bottom.

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Remove ventilator channel attaching screws (fig. 3J-9).

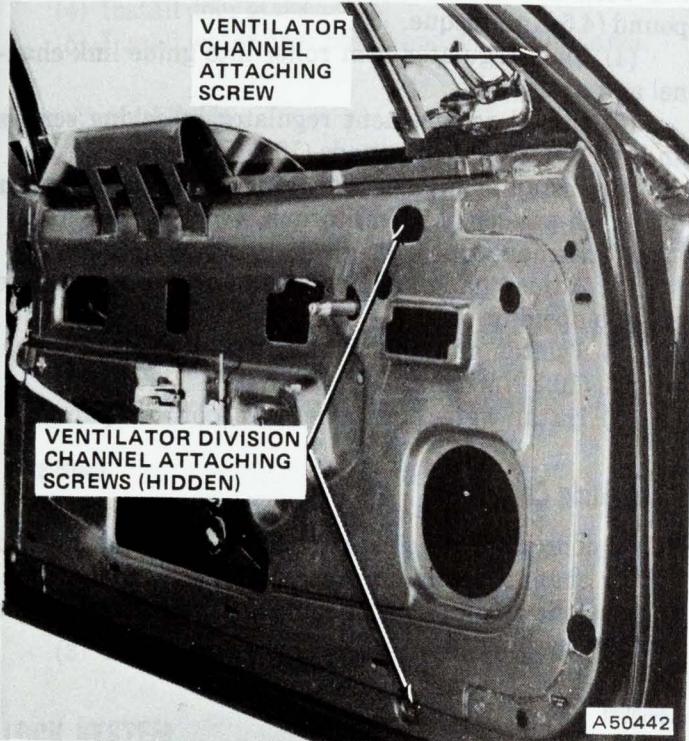


Fig. 3J-9 Ventilator Division Channel Removal —Pacer

- (3) Remove ventilator division channel attaching screws.
- (4) Lower window completely.
- (5) Remove ventilator division channel assembly (fig. 3J-8) from door.

Disassembly

- (1) Remove ventilator assembly from door.
- (2) Remove upper pivot attaching screws and bracket from ventilator division channel (fig. 3J-10).
- (3) Remove screw and clip from lower pivot shaft (fig. 3J-11).
- (4) Remove frame and glass.
- (5) Pull weatherstrip from ventilator frame.

Assembly

- (1) Install weatherstrip into frame with soapy solution.
- (2) Install lower pivot shaft in frame and secure with clip and attaching screw.

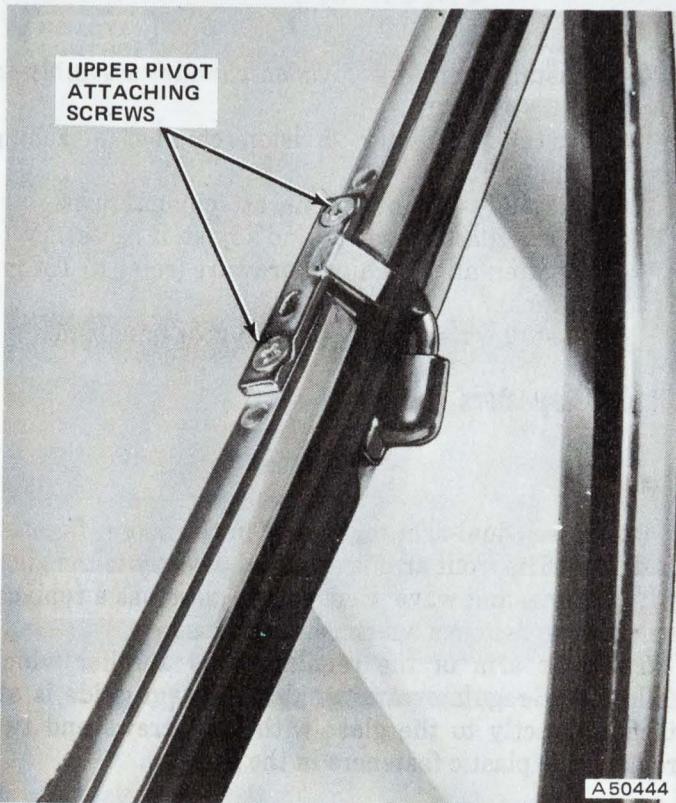


Fig. 3J-10 Removing Upper Pivot—Pacer

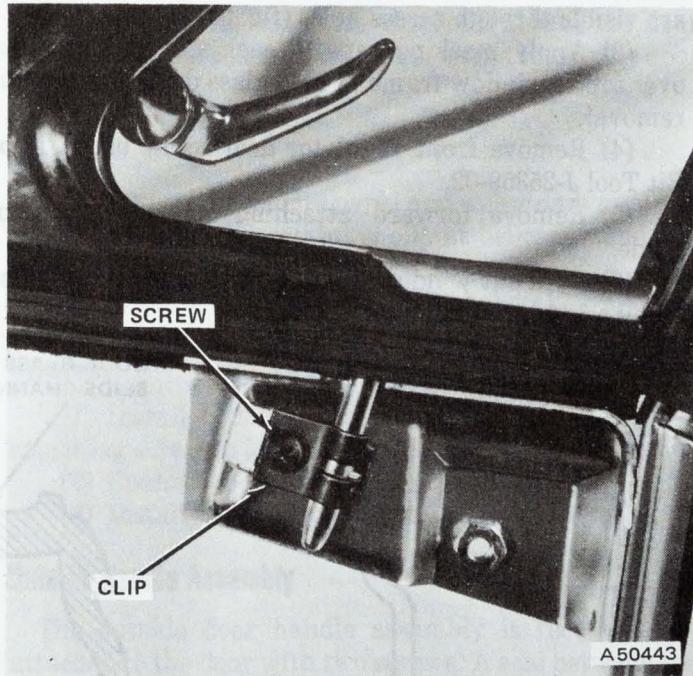


Fig. 3J-11 Removing Lower Pivot Shaft—Pacer

- (3) Insert upper pivot bracket pin into recess in ventilator glass frame and install bracket and attaching screws to ventilator division channel.
- (4) Install ventilator assembly to door window frame.

Installation

- (1) Install ventilator division channel assembly in door.
- (2) Install ventilator division channel attaching screws (fig. 3J-9).
- (3) Install ventilator channel attaching screws.
- (4) Check glass operation and adjust, if necessary.
- (5) Tighten all attaching hardware (refer to Torque Specifications).
- (6) Install water dam paper and door trim panel.

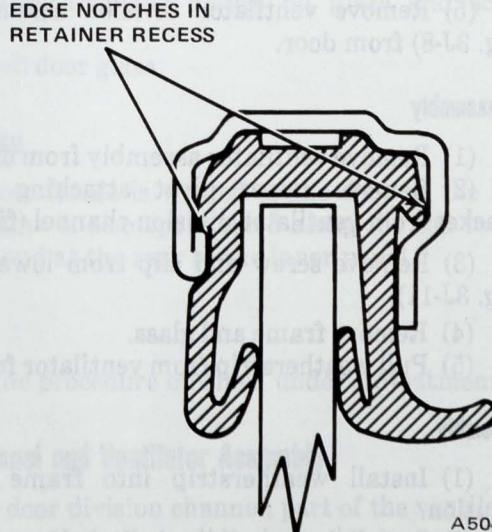
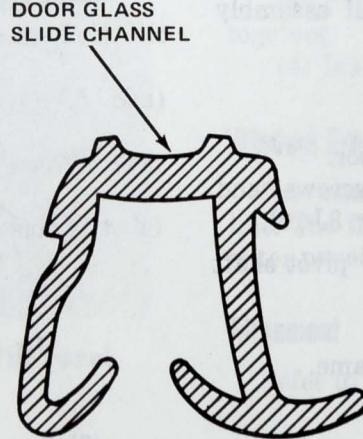
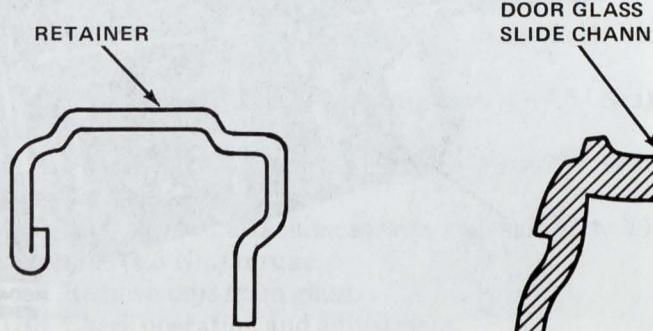
Window Regulators**Removal**

Pacer uses dual-arm regulators in the doors (fig. 3J-7 and 3J-8). The front arm is attached directly to the glass with a screw and wave washer. The glass has a replaceable plastic fastener which retains the screw.

The rear arm of the regulator has a roller which follows the regulator arm guide. The arm guide is attached directly to the glass with two screws and two replaceable plastic fasteners in the glass.

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Raise glass until front and rear regulator arms are visible through access holes (fig. 3J-6).
- (3) Apply masking tape to each side of the glass over top of window frame to hold glass during regulator removal.
- (4) Remove front regulator arm screw using Torx Bit Tool J-25359-02.
- (5) Remove forward attaching screw from arm guide.
- (6) Drill out window regulator attaching pop rivets, using a 1/4-inch drill bit.



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- (7) Disengage roller from guide link channel and remove regulator through lower access hole.

Installation

- (1) Lower glass so that attaching points at bottom of glass are visible through upper access hole.
- (2) Insert replacement regulator through lower access hole.
- (3) Install front regulator arm attaching screw using Torx Bit Tool J-25359-02 and tighten to 40 inch-pounds (4.5 Nm) torque.
- (4) Slide regulator arm roller into guide link channel and arm guide.
- (5) Install replacement regulator attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.
- (6) Install arm guide attaching screws and tighten to 40 inch-pounds (4.5 Nm) torque.
- (7) Remove tape from glass.
- (8) Adjust guide link channel up or down to square glass in opening.
- (9) Tighten guide link attaching screws to 90 inch-pounds (10.2 Nm) torque.
- (10) Install water dam paper and door trim panel.

Glass Slide Channel

The door glass slide channel is an M-shaped, flocked rubber channel. A lip on each side of the slide channel engages the retainer just behind the rolled edge of the retainer opening (fig. 3J-12).

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Lower window and remove door glass.
- (3) Remove channel from window frame by popping out attaching clips and pulling channel out of rear retainer.

Fig. 3J-12 Glass Slide Channel and Retainer Cross Section

Installation

(1) Begin installation of channel in top rear corner of door.

(2) Install channel into rear retainer until slack is removed.

(3) Install forward portion of channel into door frame opening and snap clips into door panel slots.

NOTE: Be sure channel is firmly seated into door frame and does not bridge at corners.

(4) Install door glass.

(5) Install water dam paper and door trim panel.

Glass Channel Guide**Removal**

NOTE: The door glass channel guide is attached at the top and bottom to the door.

(1) Remove door trim panel and water dam paper.

(2) Remove door glass.

(3) Remove attaching screws and channel guide.

Installation

(1) Position channel guide in door and install and tighten attaching screws to 90 inch-pounds (10.2 Nm) torque.

(2) Install door glass.

(3) Install water dam paper and door trim panel.

LOCK SYSTEM**Inside Remote Handle or Control****Removal**

(1) Remove screw attaching handle to remote control using Torx Bit Tool J-25359-02. Remove handle.

(2) Remove door trim panel.

(3) Disconnect latch to remote control link.

(4) Remove remote control attaching screws (fig. 3J-13) using Torx Bit Tool J-25359-02.

(5) Remove remote control from inner door panel.

Installation

(1) Position remote control on inner door panel and install attaching screws using Torx Bit Tool J-25359-02.

(2) Tighten attaching screws to 40 inch-pounds (4.5 Nm) torque.

(3) Connect latch to remote control link.

(4) Install door trim panel.

(5) Position handle on remote control and install attaching screw using Torx Bit Tool J-25359-02. Tighten screw to 40 inch-pounds (4.5 Nm) torque.

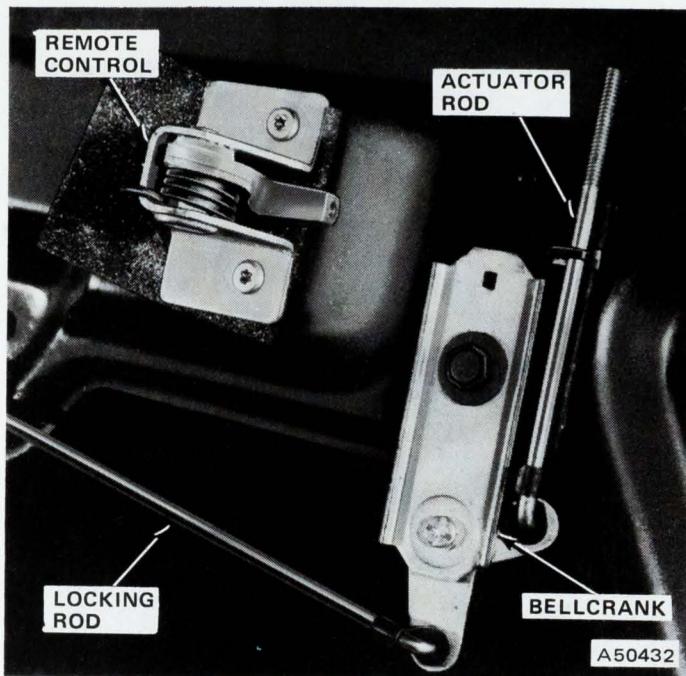


Fig. 3J-13 Remote Control Replacement—Pacer

Inside Locking Controls

The inside lock pushbutton is attached to the actuator rod, and the actuator rod is attached to the bellcrank (fig. 3J-4). The bellcrank is attached to the door inner panel. The remote rod from the bellcrank to the door latch operates a common lock lever with the outside door key lock.

Removal

(1) Remove door trim panel and water dam paper.

(2) Remove rod retaining clip at bellcrank and disconnect rod.

(3) Remove attaching screw and bellcrank.

Installation

(1) Install bellcrank and attaching screw. Tighten attaching screw to 90 inch-pounds (10.2 Nm) torque.

(2) Connect rod to bellcrank and install clip.

(3) Install water dam paper and door trim panel.

Outside Handle Assembly

The outside door handle assembly is recessed and attached to the door with two screws. A seal between the handle and the door outer panel provides protection from water leakage and paint finish damage. The key lock cylinder is mounted along side the handle assembly.

The door handle lever operates the latch through a connecting rod. Pulling the door handle lever releases the door latch. A rubber bumper provides a soft stop for the handle when released and a coil spring returns the lever to its normal position.

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Raise window to closed position.
- (3) Disconnect outside handle-to-door latch rod at handle (fig. 3J-14).
- (4) Remove attaching screws from handle assembly using Torx Bit Tool J-25359-02 and remove handle assembly.

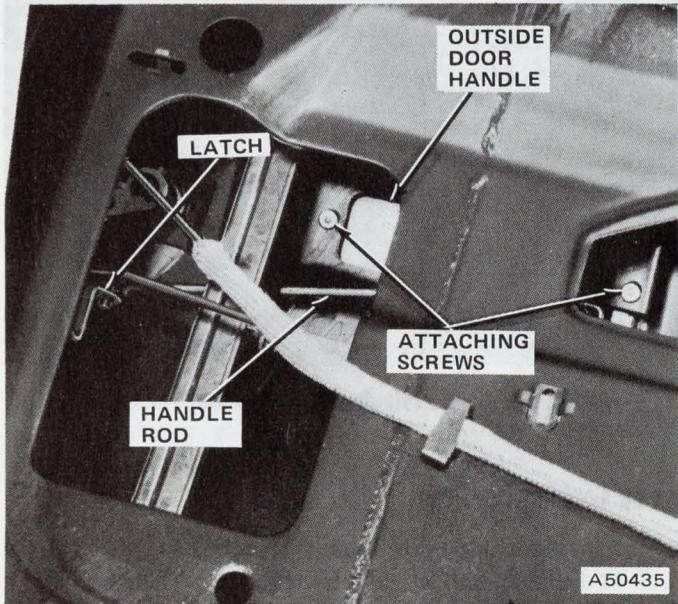


Fig. 3J-14 Outside Door Handle Replacement—Pacer

Installation

- (1) Position handle assembly and secure with attaching screws using Torx Bit Tool J-25359-02. Tighten screws to 35 inch-pounds (4 Nm) torque.
- (2) Connect handle-to-door latch rod to handle.
- (3) Install water dam paper and door trim panel.

Key Lock

The door key lock cylinder is encased in the cylinder housing. A spring-loaded shutter covers the key hole.

The lock is held against the inside surface of the door outer panel by a retaining clip.

Door Lock Cylinder

Coded tumblers (numbered one through five) and coil springs are available through the AMC Parts Distribution Centers. The unmarked tumblers are number one.

The lock cylinder (less tumblers), housing, dust cover, and cap are available as a kit. Whenever a lock cylinder replacement is required, the service cylinder can be coded to match the existing key as follows (fig. 3J-15).

- (1) Obtain key code number and corresponding five-digit bitting number.
- (2) Remove cylinder lock assembly from door.

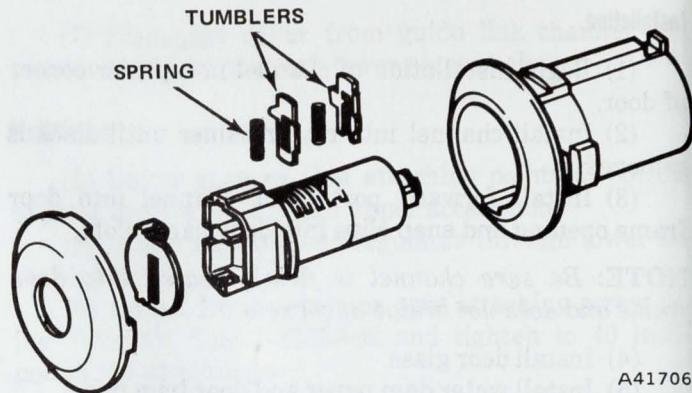


Fig. 3J-15 Lock Cylinder

- (3) Code new cylinder to the existing key bitting number (example: Code 42135).
 - (a) Start at key end of cylinder, insert coil spring and number four tumbler into first slot and snap tumbler into place.
 - (b) Insert number two tumbler into second slot and unmarked tumbler (which is number one) into third slot.
 - (c) Insert number three tumbler into fourth slot and number five tumbler into fifth slot.
- (4) Insert key into cylinder with all tumblers flush with cylinder.
- (5) Install cylinder into housing and install spring dust cover and crimp dust cap onto lock housing.

Lock Operation

The doors automatically lock when closed with the lock button down.

Lubrication

To prevent lock freezeup and sticky or difficult key lock operation, use a powdered graphite in the key hole. Use alcohol or benzene to clean lock assembly. Dry cylinder with compressed air and lubricate.

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Raise door glass to closed position.
- (3) Disconnect lower plastic clip on lock cylinder-to-latch rod from trim panel side.
- (4) Remove lock cylinder retainer by prying against clip flange.
- (5) Remove lock cylinder assembly.

Installation

- (1) Align notches and insert lock cylinder assembly.
- (2) Insert lower end of lock cylinder-to-latch rod into lower plastic latch clip.

- (3) Install lock cylinder retainer.
- (4) Install water dam paper and door trim panel.

Door Latch

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Disconnect remote control rod, locking rods, and outside handle rod.
- (3) Remove screws attaching latch (fig. 3J-4) to door using Torx Bit Tool J-25359-02 and remove latch.

Installation

- (1) Position latch in door and install attaching screws using Torx Bit Tool J-25359-02. Tighten to 45 inch-pounds (5 Nm) torque.
- (2) Connect remote control rod, locking rods, and outside handle rod to latch.
- (3) Install water dam paper and door trim panel.

Lubrication

Remove the door latch upper mounting screw and apply a few drops of engine oil. Apply several drops of oil to the latch opening. Open and close the door several times to distribute the oil.

If the latch has been removed, wash it in a cleaning solvent. Dry with compressed air and apply AMC Lubriplate or equivalent.

Lock Striker

The striker provides a secure retention point for the latch and prevents up and down movement of the door. It consists of a threaded, tempered-steel pin with a polyurethane sleeve for durable and cushioned operation. Use Torx Bit Tool J-25359-02 for removal, installation or adjustment.

Adjustment

- (1) Determine proper striker alignment (fig. 3J-16).

NOTE: Lock striker should enter latch smoothly with no up or down movement of the door. Door should open smoothly without dragging on striker.

- (2) Loosen and move striker to desired position.
- (3) Tighten striker to 52 foot-pounds (70.5 Nm) torque.
- (4) Apply lubricant to striker pin.

CAUTION: Doublecheck for proper functioning. It is possible to set the striker in so far that the door is closed tight with only the safety catch engaged.

Hinge System

The door hinges use a bronze-type bushing at the pivot pins. The hinge pin is serrated under the head to prevent movement of the pin.

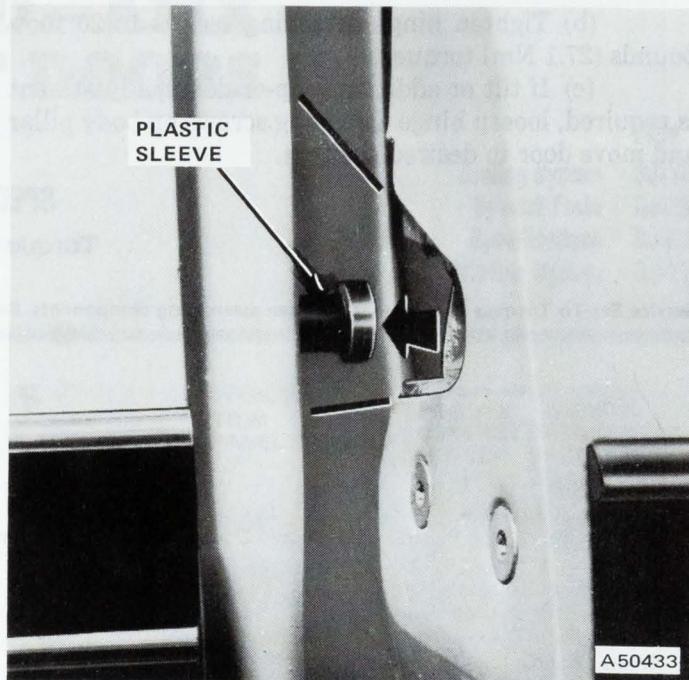


Fig. 3J-16 Lock Striker Alignment

The front door check stop is located on the lower hinge. A serrated roller must depress a torsion rod in order for the door to pass the check stop and be held open.

Replacement

- (1) Position door in holding fixture.
- (2) Remove all hinge-to-door attaching screws.
- (3) Remove door from car.
- (4) Remove hinge-to-post attaching screws and remove hinges.
- (5) Clean replacement hinges in a suitable solvent and blow dry with compressed air.
- (6) Paint hinges to match body.
- (7) Lubricate hinges with AMC Lubriplate or equivalent.
- (8) Position hinges on post and install attaching screws.
- (9) Position door in body opening and install hinge-to-door attaching screws.
- (10) Remove door holding fixture.
- (11) Perform necessary door adjustments (refer to Door Adjustments).
- (12) Tighten hinge to door attaching screws to 20 foot-pounds (27.1 Nm) torque. Tighten hinge to body attaching screws to 40 foot-pounds (54.2 Nm) torque.

Door Adjustments

- (1) Remove lock striker.
- (2) Determine adjustment required.
 - (a) If in-or-out or up and down adjustment is required, loosen hinge attaching screws at door and position door.

(b) Tighten hinge attaching screws to 20 foot-pounds (27.1 Nm) torque.

(c) If tilt or additional up-or-down, adjustment is required, loosen hinge attaching screws on body pillar and move door to desired position.

(d) Tighten hinge to door attaching screws to 20 foot-pounds (27.1 Nm) torque. Tighten hinge to body attaching screws to 40 foot-pounds (54.2 Nm) torque.

(3) Install and adjust lock striker and tighten to 52 foot-pounds (70.5 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. **Service In-Use Recheck Torques** should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
PACER DOOR				
Door Lock Striker	71	61-81	52 ft-lbs.	45-60 ft-lbs.
Screw - Bracket and Bellcrank Assembly - Door Locking to Door Inner Panel	10	9-11	90	80-100
Screw - Door Hinge to Body	54	47-61	40 ft-lbs.	35-45 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Outside Handle	4	3-7	35	25-60
Screw - Front Door Latch Remote Control Assembly	5	4-6	40	35-55
Screw - Handle to Bracket Door Latch Remote Control	5	4-6	40	35-55
Screw - Locking Latch to Door Inner Panel	5	5-7	45	40-60
PACER DOOR GLASS				
C/V Assembly to Door Inner	10	9-11	90	80-100
Screw - C/V Assembly to Door Front	3	3-6	30	25-50
Screw Div. Bar Bracket Lower to Door Inner	10	9-11	90	80-100
Screw - Front Door Regulator Arm to Glass	5	3-6	40	30-50
Screw - Front Door Window Regulator Link to Inner Panel	10	9-11	90	80-100
Screw - Door Glass Guide Upper	3	2-4	25	20-35
Screw - Door Window Front Channel to Door Inner Panel	10	9-11	90	80-100
Screw - Door Window Glass Front	5	3-6	40	30-50
Screw - Door Window Regulator Assembly	10	9-11	90	80-100
Screw - Door Window Regulator Handle	5	3-6	40	30-50
Screw - Rear Guide Channel Lower to Door Inner Panel	10	9-11	90	80-100

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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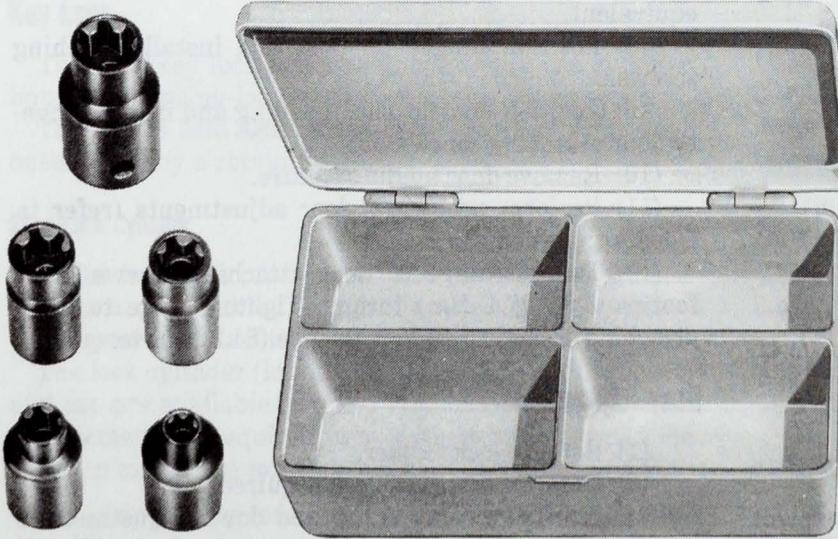
Special Tools



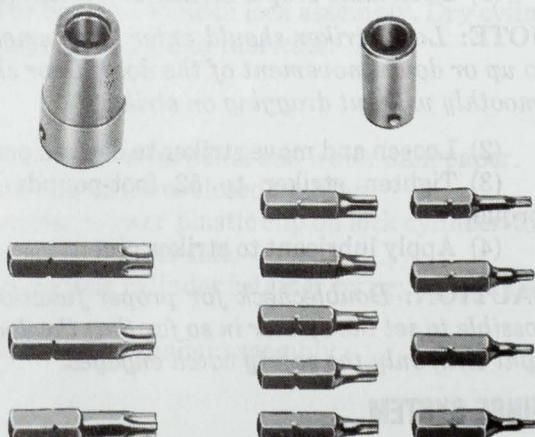
J-2631-01
TRIM PAD DEPRESSOR



J-22729
DOOR HINGE WRENCH



J-25359-02
TORX BIT AND SOCKET SET



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GREMLIN – CONCORD – AMX FRONT DOORS

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DOOR TRIM

Window Regulator Handles

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen-head screw. To remove the handle, remove the screw, pull the handle straight off the shaft, and remove the nylon washer, if equipped.

Install the handle with the knob forward, the handle horizontal and the glass all the way up. Install the attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

Armrest Replacement

- (1) Remove attaching screws and overlay strip, if equipped.
- (2) Remove attaching screws and armrest.
- (3) To install, position armrest on door and install attaching screws.
- (4) Install overlay strip and attaching screws, if equipped.

Trim Panel

Removal

The trim panels (fig. 3J-17) are of hardboard composition and plastic covered with material to match each interior. Decorative mouldings and inserts, utilized with the various models, are attached to this panel. The trim panel is attached to the door inner panel by metal clips and screws.

- (1) Remove window regulator handle (fig. 3J-17) and nylon washer.
- (2) Remove remote control mirror escutcheon, if equipped.
- (3) Remove attaching screws and armrest overlay strip, if equipped.
- (4) Remove attaching screws and armrest.
- (5) Remove remote control handle bezel attaching screws.
- (6) Remove bezel by sliding toward front of car and off handle.

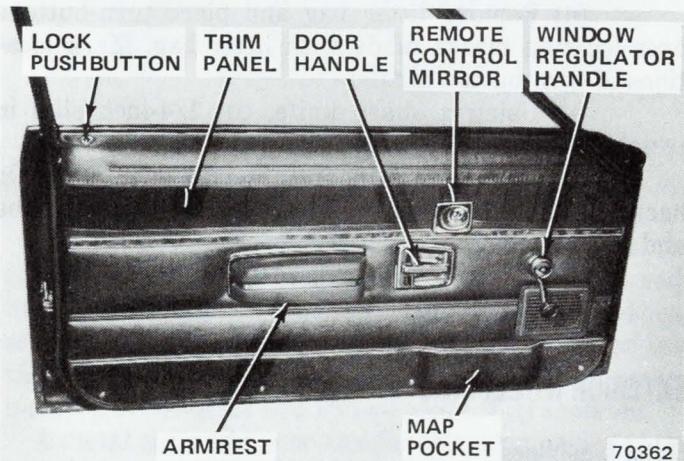


Fig. 3J-17 Door Interior Components—Concord

- (7) Remove screws along bottom of trim panel.
- (8) Pry out panel-to-door clips along sides and top with Trim Pad Depressor J-2631-01.
- (9) Remove panel.

Installation

- (1) Install trim panel on door. Be sure clips are aligned with holes in door inner panel.
- (2) Install screws along bottom of trim panel.
- (3) Slide bezel over handle. Be sure to engage locator tabs over trim panel.
- (4) Install bezel attaching screws.
- (5) Position armrest and install attaching screws.
- (6) Install armrest overlay strip and attaching screws, if equipped.
- (7) Install remote control mirror escutcheon, if equipped.
- (8) Install nylon washer and correctly position regulator handle. Install attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

Replacement

- (1) Remove trim panel.
- (2) If equipped with door mounted speaker proceed as follows:
 - (a) Remove speaker grille and bezel from original panel.

(b) Cut speaker grille opening in replacement panel, following outline provided on backside of panel, with sharp knife.

(c) Install speaker grille and bezel on replacement panel.

(3) If equipped with litter bag proceed as follows:

(a) Remove litter bag, turn-buttons and plates from original panel.

(b) Straighten turn-button attaching tabs.

(c) Position litter bag on replacement panel and mark turn-button locations.

(d) Remove litter bag and place turn-buttons over locating marks made with litter bag. Mark locations of turn-button tabs.

(e) Using a sharp knife, cut 1/4-inch slits in panel for turn-button tabs.

(f) Insert turn-button tabs into panel slits. On backside of panel, install plates over turn-button tabs and crimp over tabs.

(g) Install litter bag on turn-buttons.

(4) Install trim panel.

EXTERIOR MOULDINGS

Metal Mouldings

All metal mouldings are attached with plastic clips; however, some mouldings are also fastened with a T-bolt and acorn nut at each end.

Replacement

(1) Remove acorn nut from T-bolt, if equipped.

(2) Pry moulding off clip using fiber or wooden stick.

(3) Remove door plastic moulding clips.

(4) Install replacement door plastic clips.

(5) Press moulding onto clips.

(6) Install acorn nuts on T-bolts, if equipped.

Vinyl Mouldings

Replacement

(1) Use 3M Release Agent, or equivalent, to soften adhesive bond.

(a) Using snorkel tube, spray between moulding and door panel.

(b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.

(2) Peel moulding from panel.

(3) Attach end of string to panel where moulding is to be applied.

(4) Run string at desired level along panel and attach at end with tape.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine if a

solvent will damage the paint, test solvent on a hidden area of the car.

(5) Clean adhesive residue and wax from surface with cloth dampened with 3M General Purpose Adhesive Cleaner, isopropyl alcohol, or equivalent.

NOTE: Surface must be clean and dry for moulding to adhere.

(6) Heat metal to minimum 68°F with heat gun J-25070 or heat lamp.

CAUTION: Do not install vinyl protective mouldings on fresh paint that has not been properly cured.

(7) Position moulding with backing paper on car and cut to desired length.

(8) Peel backing paper and press moulding to body of car, parallel with string.

(9) Firmly press moulding to body with roller or heavy hand pressure.

(10) Remove string.

(11) Check door opening; if necessary, trim moulding with razor blade.

(12) If moulding comes loose, apply 3M Plastic and Emblem Adhesive, or equivalent, to back surface of moulding and press firmly to body. Pull bond apart and allow to remain open 10 to 15 seconds. Press moulding firmly back on door panel and hold in position for 10 seconds.

SEALING SYSTEM

The front door sealing system consists of water dam paper and various weatherstrips which seal the door and door opening from water and wind leaks. Refer to Chapter 3A for water and wind leak diagnosis.

Window Belt Weatherstrips

A hollow-core, flocked, black-rubber weatherstrip is used on the door belt line. The outer and inner weatherstrips are attached by barbed spring clips to the door panels.

Removal

(1) Pull weatherstrip from panel at retaining clips.

(2) Insert screwdriver into retaining slots and slightly distort slots (fig. 3J-18).

(3) Lift and remove weatherstrip.

Installation

(1) Straighten each weatherstrip clip retaining slot.

(2) Insert center section of each clip into each retainer slot.

(3) Install weatherstrip and retaining clips.

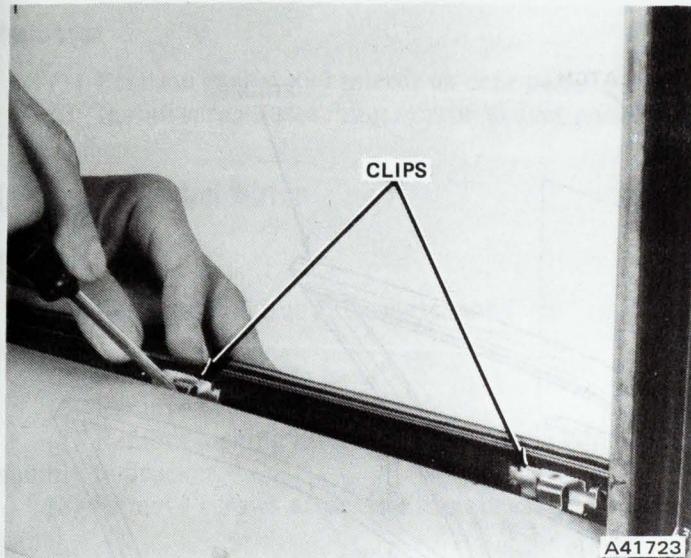


Fig. 3J-18 Clip Removal

Water Dam Paper

Waterproof water dam paper (fig. 3J-19) is attached to the door inner panel with a bead of adhesive sealer. To avoid tearing the paper during removal, use a putty knife to separate the paper and sealer from the inner panel.

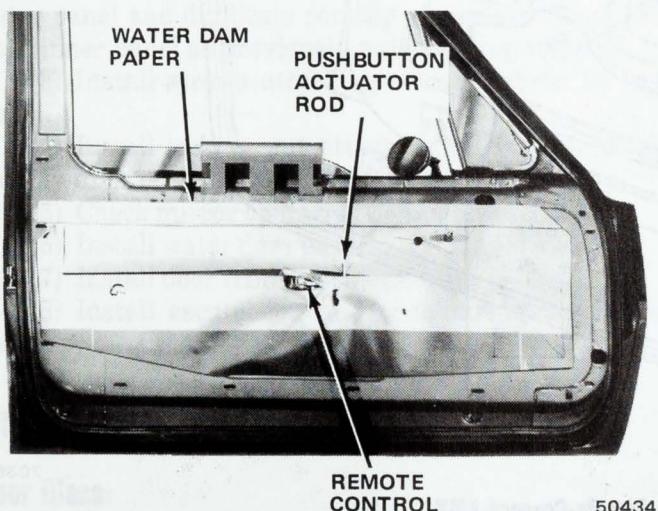


Fig. 3J-19 Water Dam Paper Installation—Typical

Scuff Plate

The aluminum scuff plate, attached to the body sill, acts as a stepping plate and provides a finished appearance to the bottom of the door opening. Oval-head screws retain the scuff plate to the body.

Door and Window Frame Rubber Sealers

The vented, dual cavity tubular rubber sealer (fig. 3J-20), has a retaining shoulder on each lower edge to fit the grooves in the door window frame.

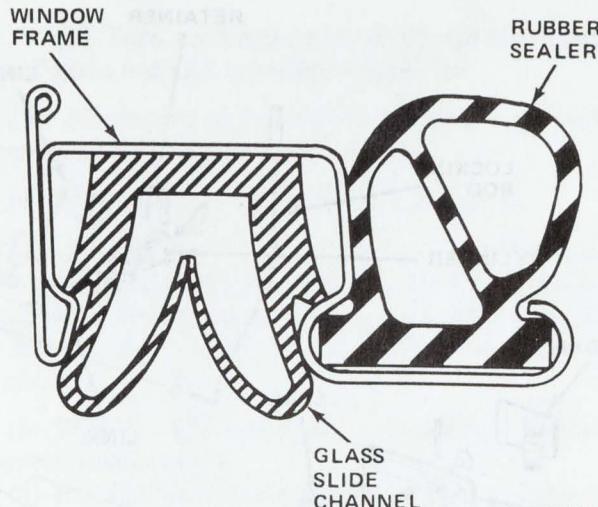


Fig. 3J-20 Window Frame and Rubber Sealer—Gremlin-Concord-AMX

Two types of plastic retainers are used to retain the rubber sealer to the door below the belt line. One threads into a nonstretchable tape moulded into the rubber sealer while the other has a T-stud which is hooked into the rubber sealer. Barbs on the fasteners depress when inserted in the holes and spread when fully inserted.

A metal clip and screw attach the rubber sealer at the belt line on the latch side of the door inner panel.

Replacement Rubber Sealer

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

Maintenance of Rubber Sealers

Cold weather may cause the door rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth to clean rubber sealers. Clean dirt from the body pillars and from all points where the rubber sealer contacts the body. Apply AMC Silicone Spray Lubricant or equivalent to rubber sealers.

CAUTION: Do not use graphite, brake fluid, or wax on rubber sealers.

Removal

- (1) Carefully remove rubber sealer (fig. 3J-21) from door using needlenose pliers to remove plastic retainers from door panel holes.

- (2) Use 3M Release Agent or equivalent to soften adhesive bond.

- (a) Using snorkel tube, spray between sealer and window frame.

- (b) Allow 2 to 3 minutes for penetration and softening of adhesive.

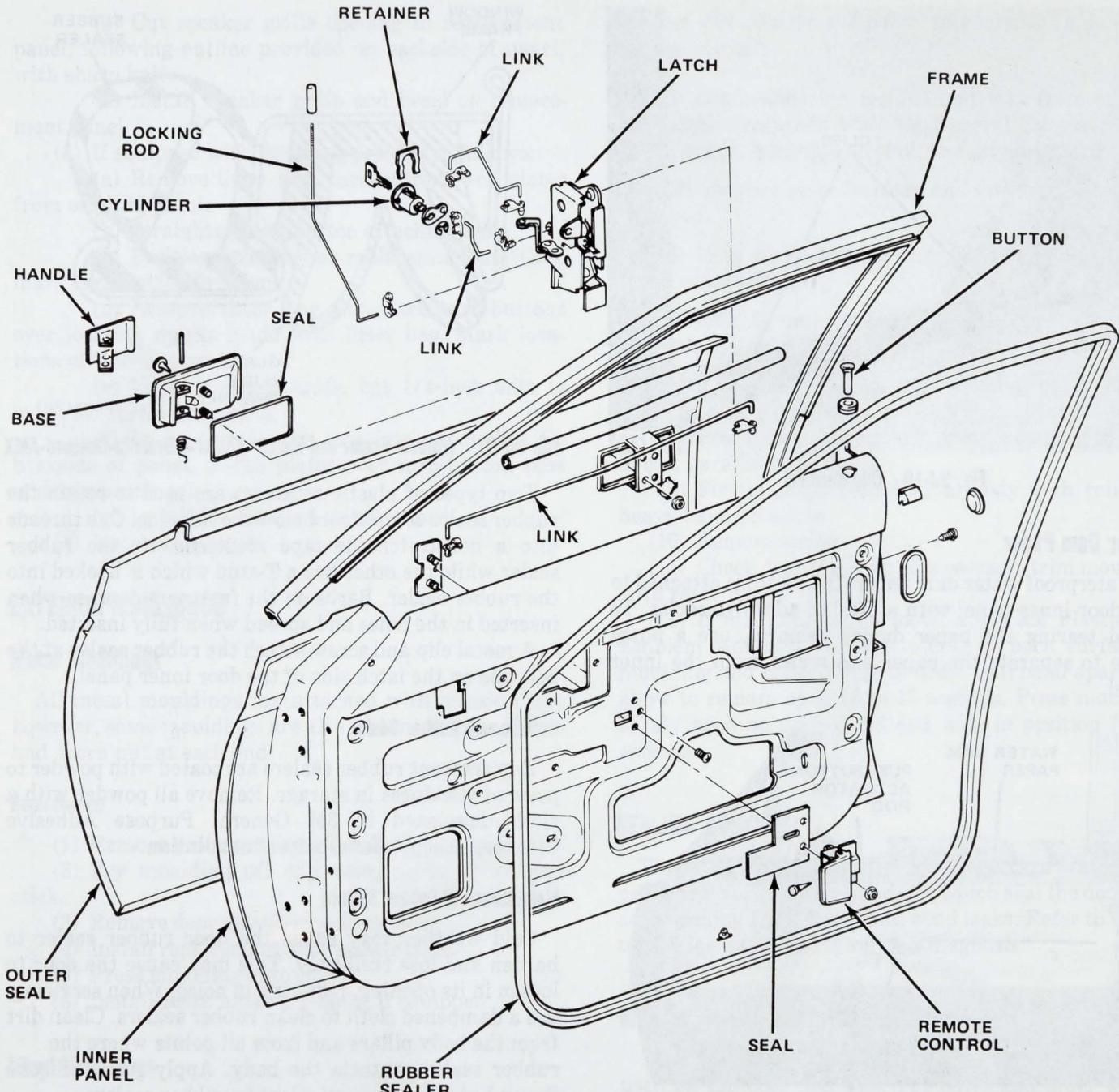


Fig. 3J-21 Door Components—Gremlin-Concord-AMX

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- (3) Pull sealer carefully from frame before solvent evaporates and adhesive resets.

Installation

- (1) Remove dust and dirt from rubber sealer, door, and door frame.
- (2) Install lower section of sealer to door first.
- (3) Press retainers into door panel holes.
- (4) Apply 1/8-inch bead of 3M Super Weatherstrip Adhesive, or equivalent to window frame, start at upper rear corner and move forward along top of door.
- (5) Place inner shoulder of sealer in channel.

- (6) Press outer shoulder into channel with a wedge-shaped fiber stick.

OUTSIDE MIRRORS

Standard Mirror

Removal

- (1) Remove screws attaching mirror to door panel.
- (2) Remove mirror and gasket from door panel.

Installation

- (1) Position gasket and mirror on door panel.
- (2) Install screws attaching mirror to door panel.

Left Remote Control Mirror**Removal**

- (1) Remove trim nut and escutcheon from door trim panel.
- (2) Remove door trim panel.
- (3) Remove water dam paper.
- (4) Remove locking nut attaching control handle assembly to bracket.
- (5) Remove screws attaching remote mirror to door panel.

NOTE: Check and note routing of remote mirror control cables before removing mirror assembly from door panel.

- (6) Remove remote mirror and gasket from door panel.

Installation

- (1) Assemble remote mirror and gasket.
- (2) Insert remote mirror control cables into door outer panel and duplicate routing of control cables into door inner panel as previously noted during removal.
- (3) Install screws attaching remote mirror to door panel.
- (4) Install locking nut attaching control handle assembly to bracket.
- (5) Check mirror operation before proceeding.
- (6) Install water dam paper.
- (7) Install door trim panel.
- (8) Install escutcheon and trim nut on door trim panel.

WINDOW SYSTEM**Door Glass****Adjustment**

There are two adjusting points for obtaining front door window glass alignment. The front glass guide channel is adjustable fore and aft and in and out at the lower attachment point. Adjustment at the lower regulator arm pivot link controls up and down movement and glass tilt in frame.

- (1) Remove door trim panel and water dam paper.
- (2) Loosen front glass guide channel nut and washer (fig. 3J-22).
- (3) Adjust glass.
 - (a) Turn stud clockwise to move bottom edge of glass in and top edge of glass out.

- (b) Turn stud counterclockwise to move bottom edge of glass out and top edge of glass in.

NOTE: Movement of front channel fore or aft reduces or increases free play between channel.

- (4) Loosen lower regulator arm pivot link.

NOTE: Moving pivot link up moves the forward regulator arm down, raises the rear portion of the glass, and lowers the front portion. Moving pivot link down moves forward regulator arm up ad lowers the rear portion of the glass.

- (5) Tighten all adjusting components (refer to Torque Specifications).

- (6) Install water dam paper and door trim panel.

Removal

- (1) Remove inner glass weatherstrip.
- (2) Remove door trim panel and water dam paper.
- (3) Position glass with screws (fig. 3J-22) visible through upper access holes.

NOTE: On doors equipped with remote control mirror, the control mounting bracket must be removed to gain access to the front screw.

- (4) Apply masking tape to each side of glass over top of window frame to keep glass from falling during regulator arm removal.

- (5) Remove front screw and wave washer (fig. 3J-23).

- (6) Remove screws from roller guide channel at rear of glass.

- (7) Remove tape from glass.

- (8) Roll regulator to down-stop.

- (9) Lower glass, tilt toward hinge side of door, and disengage from channels.

- (10) Pull glass up and out of door panel.

NOTE: When removing glass, keep glass toward outside of window frame.

Installation

- (1) Lower glass into door with front of glass tilted down, while positioning glass into front and rear channels.

NOTE: When installing glass, keep glass toward outside of window frame.

- (2) Slide glass up until fasteners are visible through upper access holes.

- (3) Apply masking tape to glass and window frame to keep glass from falling.

- (4) Crank regulator arms up.

- (5) Install front screw and wave washer in fastener (fig. 3J-24).

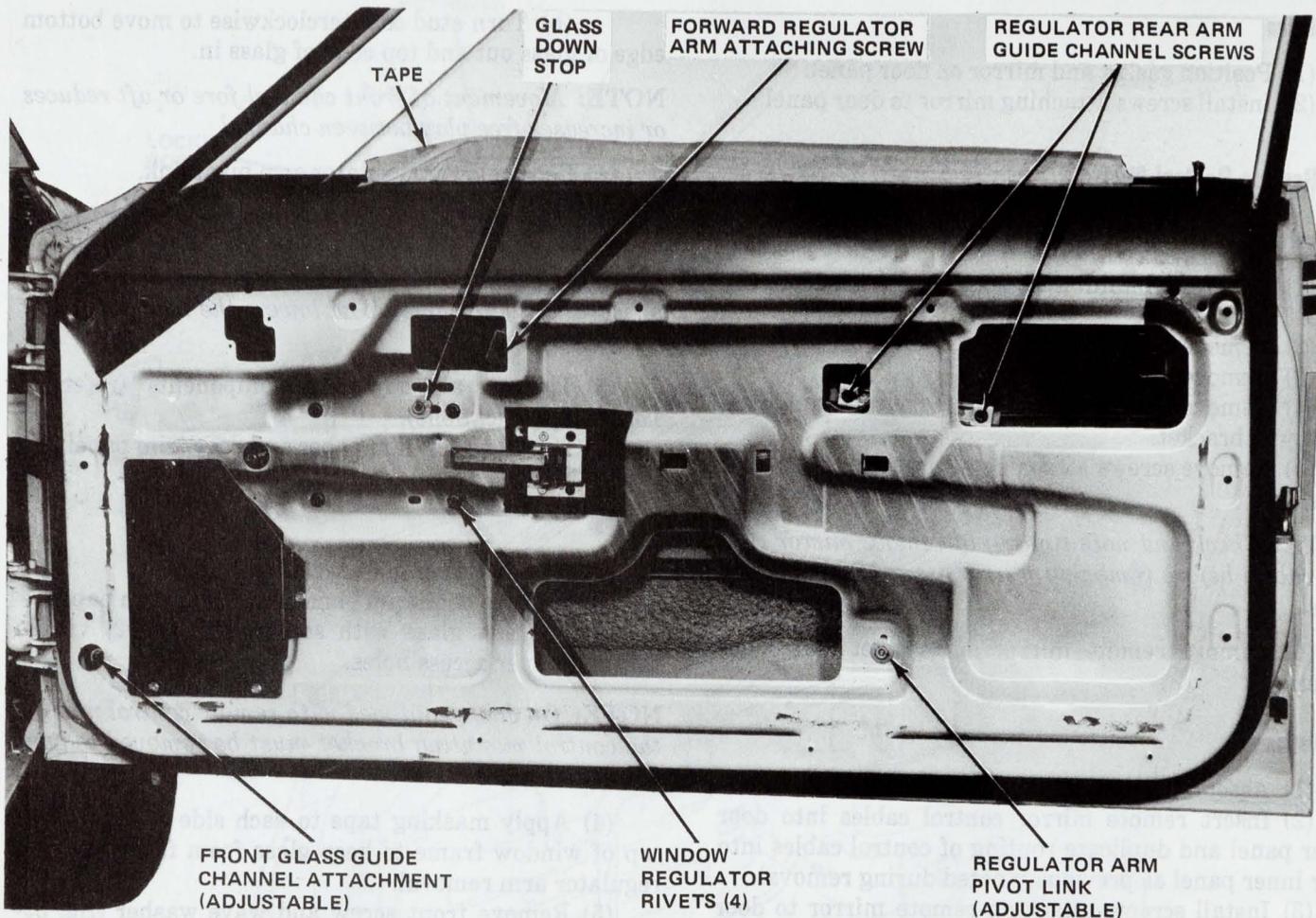


Fig. 3J-22 Glass Adjustments—Gremlin-Concord-AMX

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- (6) Tighten screw to 40 inch-pounds torque.
- (7) Slide roller guide channel onto regulator arm and position channel on glass.
- (8) Install channel screws and tighten (refer to Torque Specifications).
- (9) Remove tape from glass.
- (10) Check operation and adjustment.
- (11) Install water dam paper and door trim panel.

Glass Fasteners

Replacement

NOTE: The front door glass contains plastic fasteners for attaching the window regulator arms and regulator arm guides.

- (1) Remove door glass and place on covered bench.
- (2) Unscrew fastener halves and remove from glass.
- (3) Position fastener halves on glass and screw together.
- (4) Install door glass.

Window Frame

The window frame is welded to the door at the belt line with steel welds. The frame is also spotwelded along the latch and the hinge side of the door.

Alignment

- (1) Place rounded side of rubber mallet in inside radius of window frame (with door closed).
- (2) Hit rubber mallet sharply with a heavy hammer.
- (3) Check frame-to-opening alignment after each hammer blow to be sure frame has moved in correct direction.
- (4) Check rubber sealer-to-roof rail contact for proper sealing.

Removal

- (1) Remove trim panel and water dam paper.
- (2) Remove rubber sealer.
- (3) Remove door glass.

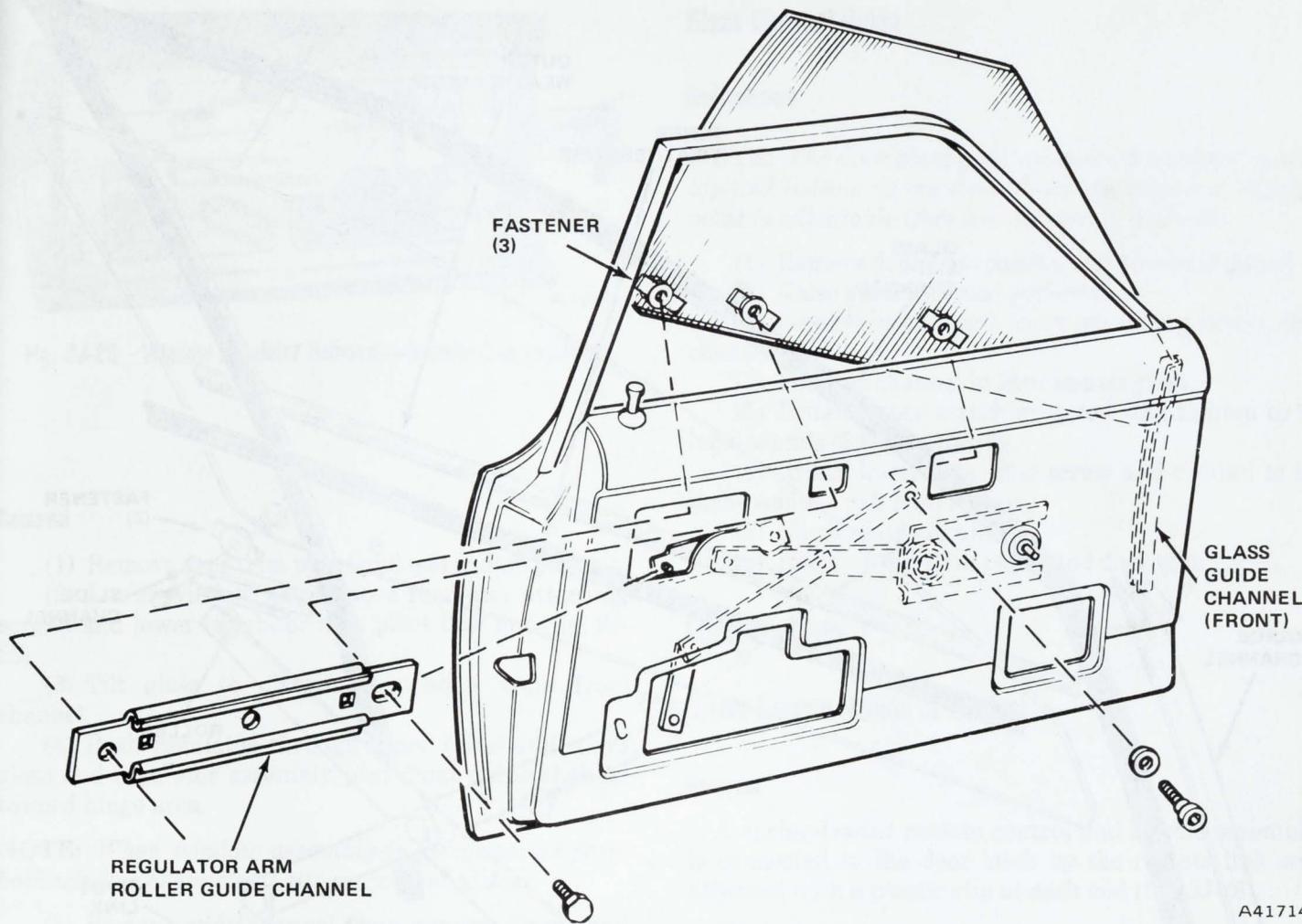


Fig. 3J-23 Glass Removal—Gremlin-Concord-AMX

- (4) Remove glass weatherstrip.
- (5) Break welds at frame-to-panel joint and drill out spotwelds.
- (6) Grind away remaining portion of original welds.
- (7) Pry window channel out of window frame.
- (8) Remove frame.

Installation

- (1) Install new window frame and reweld.
- (2) Repair burned areas of paint as necessary.
- (3) Install window channel and door rubber sealer.
- (4) Install door glass.
- (5) Install water dam paper and trim panel.

Window Regulators

Removal

Dual-arm regulators are used in the front door (fig. 3J-25). The front arm is attached directly to the glass with a screw. The glass has a replaceable plastic fastener which retains the screw.

The rear arm of the front door regulator has a roller which follows the regulator slide channel. The slide

channel is attached directly to the glass with two screws and two replaceable plastic fasteners in the glass.

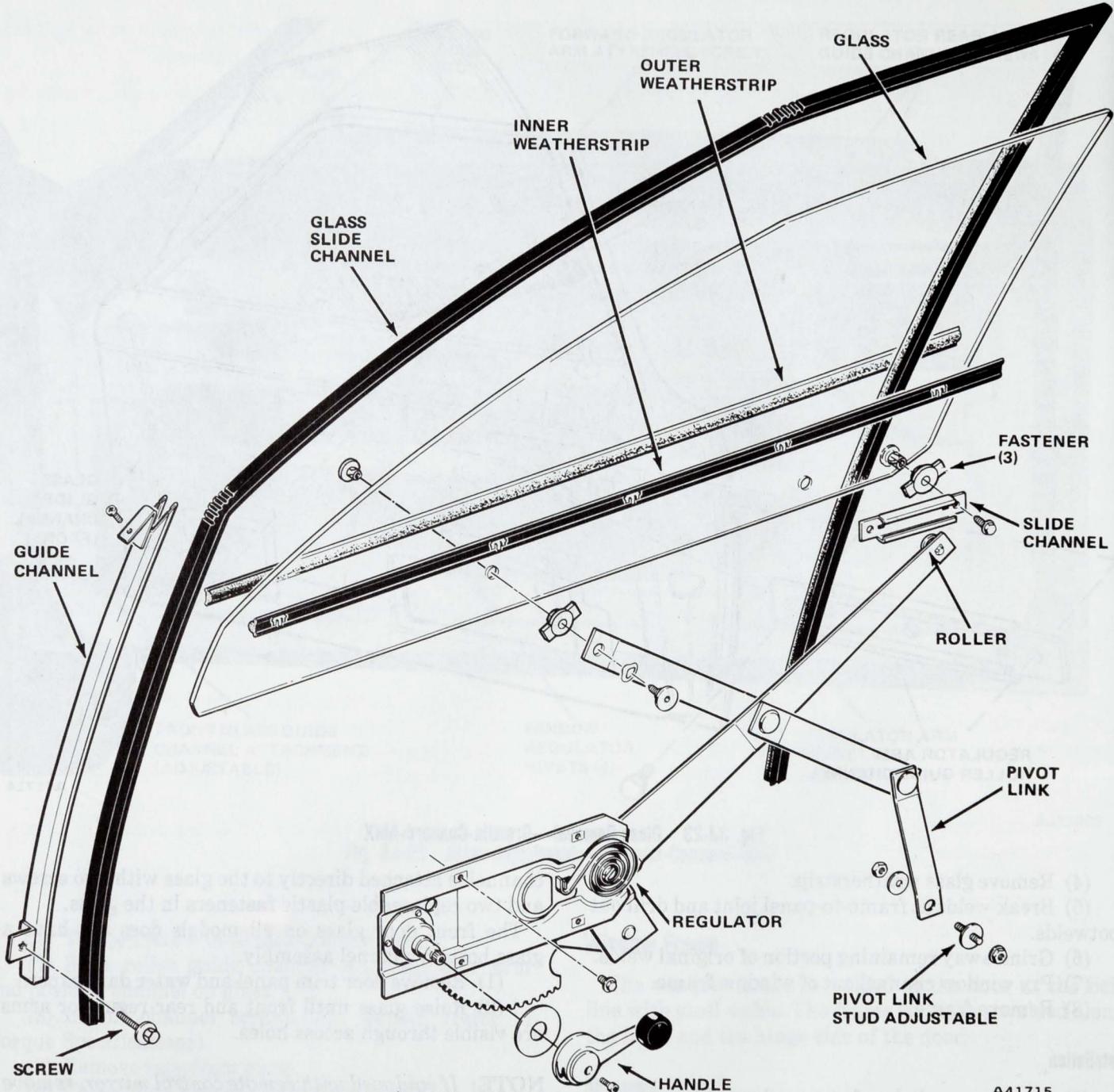
The front door glass on all models does not have a glass bottom channel assembly.

- (1) Remove door trim panel and water dam paper.
- (2) Raise glass until front and rear regulator arms are visible through access holes.

NOTE: If equipped with remote control mirror, remove control mounting bracket to gain access to front screw.

(3) Apply masking tape to each side of the glass over top of window frame to hold glass during regulator removal.

- (4) Remove front regulator arm attaching screw and wave washer.
- (5) Remove forward attaching screw from slide channel.
- (6) Drill out window regulator attaching pop rivets, using a 1/4-inch drill bit.
- (7) Remove attaching screw from lower regulator arm pivot link.
- (8) Disengage roller from slide channel and remove regulator through lower access hole (fig. 3J-25).



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Fig. 3J-24 Glass Assembly and Attaching Parts—Gremlin-Concord-AMX

Installation

- (1) Lower glass so that attaching points at bottom of glass are visible through upper access hole.
- (2) Insert replacement regulator through lower rear access hole.
- (3) Install front regulator arm attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.
- (4) Slide regulator arm roller into slide channel.
- (5) Install replacement regulator attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.
- (6) Install slide channel attaching screws and tighten to 40 inch-pounds (4.5 Nm) torque.

(7) Attach regulator arm pivot link.

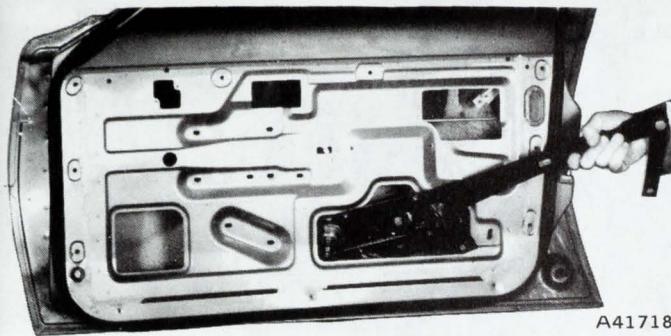
(8) Remove tape from glass.

(9) Adjust pivot link up or down to square glass in opening and tighten nut to 90 inch-pounds (10.2 Nm) torque.

(10) Install water dam paper and door trim panel.

Glass Slide Channel

The door glass slide channel is an M-shaped, flocked rubber channel. A lip on each side of the slide channel engages the window frame just behind the rolled edge of the window frame opening (fig. 3J-20).



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Fig. 3J-25 Window Regulator Removal—Gremlin-Concord-AMX**Removal**

- (1) Remove door trim panel and water dam paper.
- (2) Lower window and remove regulator attaching screws and lower regulator arm pivot link nut (fig. 3J-23).
- (3) Tilt glass to disconnect window from front channel.
- (4) Push regulator through inner panel and move glass and regulator assembly past front guide channel toward hinge area.

NOTE: When window assembly is disconnected from both window channels, it sits on bottom of door.

- (5) Remove slide channel from window frame and lower channel.

Installation

- (1) Begin installation of slide channel in top rear corner of door frame.
- (2) Apply soapy solution to bottom 6 inches of slide channel back.
- (3) Install slide channel into rear window frame channel until slack is removed.
- (4) Bond rear vertical run into window frame with 3M Super Weatherstrip Adhesive, or equivalent.
- (5) Install forward portion of slide channel into window frame opening and lower guide channel.

NOTE: Be sure slide channel is firmly seated into door frame and does not bridge at corners.

- (6) Install glass and regulator assembly.
- (7) Install regulator attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.
- (8) Adjust pivot link up or down to square glass in opening.
- (9) Tighten pivot link attaching nut to 90 inch-pounds (10.2 Nm) torque.
- (10) Install water dam paper and door trim panel.

Glass Channel Guide**Replacement**

NOTE: The door glass guide channel is attached at the top and bottom to the door. Only the bottom attaching point is adjustable (fore and aft and in and out).

- (1) Remove door trim panel and water dam paper.
- (2) Raise glass to closed position.
- (3) Remove upper and lower attaching screw, and channel.
- (4) Position channel in door and on glass.
- (5) Install upper attaching screw and tighten to 23 inch-pounds (2.6 Nm) torque.
- (6) Install lower attaching screw and tighten to 90 inch-pounds (10.2 Nm) torque.
- (7) Check glass alignment.
- (8) Install water dam paper and door trim panel.

LOCK SYSTEM**Inside Remote Handle or Control****Removal**

A spring-loaded remote control and handle assembly is connected to the door latch by the remote link and attached with a plastic clip at each end (fig. 3J-26).

- (1) Remove door trim panel and water dam paper.
- (2) Unsnap plastic clip and lift link end from remote control.
- (3) Remove remote control-to-door attaching screws using Torx Bit Tool J-25359-02.

Installation

- (1) Install plastic clip to remote control.
- (2) Position remote control on door inner panel, and install attaching screws using Torx Bit Tool J-25359-02. Tighten screws to 45 inch-pounds (5.1 Nm) torque.
- (3) Attach remote link to remote control.

NOTE: Ensure positive clip retention at all connections.

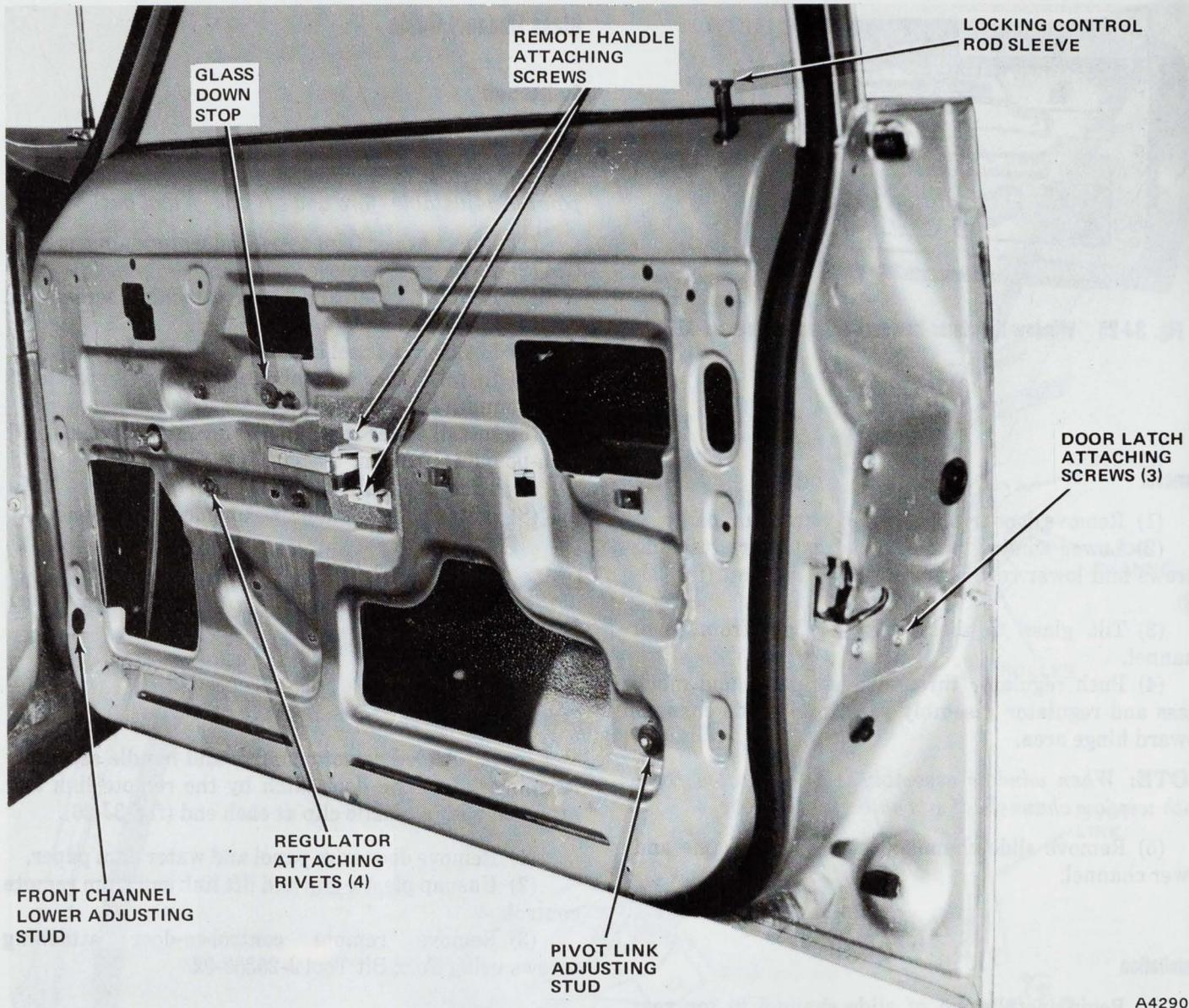
- (4) Install water dam paper and door trim panel.

Inside Locking Controls

The inside lock lever control consists of a single link extending through the door inner panel and connected to the door latch with a plastic clip.

Replacement

- (1) Remove door trim panel and water dam paper.
- (2) Raise glass to closed position.



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Fig. 3J-26 Latch, Window Regulator, and Remote Control—Gremlin-Concord-AMX

- (3) Disconnect plastic clip (reach through lower access hole) from door lock link.
- (4) Pull lock link up through upper door panel.
- (5) Install locking link through grommet in upper door panel.
- (6) Attach link to door latch locking lever with plastic clip.
- (7) Install water dam paper and door trim panel.

Outside Handle Assembly

Replacement

The outside door handle assembly is recessed and attached to the door with two fasteners. A seal between the handle and the door outer panel provides protection from water leakage, lock freezeup, and paint finish damage.

The key lock cylinder is mounted below the handle assembly.

The door handle lever operates the latch through a connecting link. Pulling the door handle lever releases the door latch. A rubber bumper provides a soft stop for the lever when released. A coil spring returns the lever to its normal position.

Replacement

- (1) Remove door trim panel.
- (2) Remove water dam paper.
- (3) Raise window to closed position.
- (4) Disconnect outside handle-to-door latch link at handle (fig. 3J-27).
- (5) Remove attaching screws from handle assembly using tool J-25359-02 and remove handle assembly.

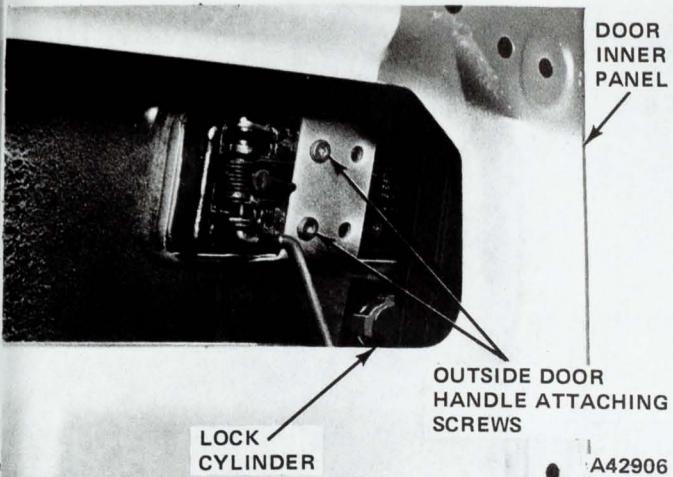


Fig. 3J-27 Outside Door Handle Replacement—Gremlin-Concord-AMX

(6) To install, position handle assembly and secure with attaching screws using tool J-25359-02. Tighten screws to 35 inch-pounds (4 Nm) torque.

- (7) Connect handle-to-door latch link to handle.
- (8) Install water dam paper.
- (9) Install door trim panel.

Key Lock

The door key lock cylinder is encased in the cylinder housing. A spring-loaded shutter covers the key hole.

The lock is held against the inside surface of the door outer panel by a retaining clip.

Door Lock Cylinder

Coded tumblers (numbered one through five) and coil springs are available through the AMC Parts Distribution Centers. The unmarked tumblers are number one.

The lock cylinder (less tumblers), housing, dust cover, and cap are available as a kit. Whenever a lock cylinder replacement is required, the service cylinder can be coded to match the existing key as follows (fig. 3J-28).

(1) Obtain key code number and corresponding five-digit bitting number.

(2) Remove cylinder lock assembly from door.

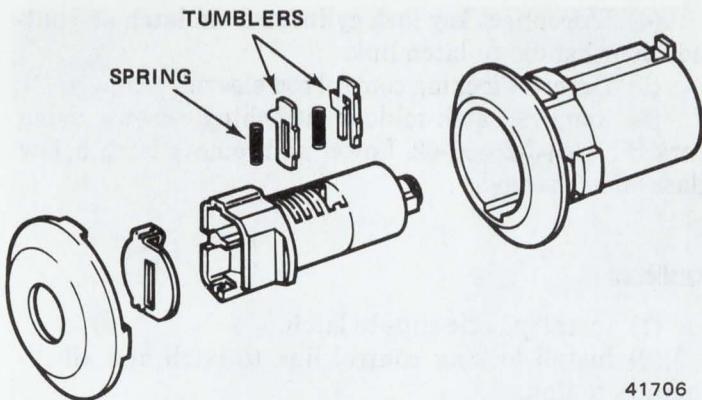
(3) Code new cylinder to the existing key bitting number (example: Code 42135).

(a) Start at key end of cylinder, insert coil spring and number four tumbler into first slot and snap tumbler into place.

(b) Insert number two tumbler into second slot and unmarked tumbler (which is number one) into third slot.

(c) Insert number three tumbler into fourth slot and number five tumbler into fifth slot.

NOTE: Tumblers snap into position with slight pressure.



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Fig. 3J-28 Lock Cylinder

(4) Insert key into cylinder with all tumblers flush with cylinder.

(5) Install cylinder into housing and install spring dust cover and crimp dust cap onto lock housing.

Lock Operation

The doors automatically lock when closed with the lock button down.

Lubrication

To prevent lock freezeup, or sticky or difficult key lock operation, use a powdered graphite in the key hole. Use alcohol or benzene to clean lock assembly. Dry cylinder with compressed air and lubricate.

Removal

(1) Remove front door trim panel and water dam paper.

(2) Raise door glass to closed position.

(3) Disconnect lower plastic clip on lock cylinder-to-latch link from inner panel side.

(4) Remove lock cylinder retainer by prying against clip flange.

(5) Remove lock cylinder assembly.

Installation

(1) Align notches and insert lock cylinder assembly.

(2) Insert lower end of lock cylinder-to-latch link into lower plastic latch clip.

(3) Install lock cylinder retainer.

(4) Install water dam paper and front door trim panel.

Door Latch

Removal

(1) Remove door trim panel and water dam paper.

(2) Raise door glass to closed position.

(3) Disconnect remote link-to-latch plastic clip.

- (4) Disconnect key lock cylinder from latch and outside door handle-to-latch link.
- (5) Unscrew locking control rod sleeve.
- (6) Remove latch-to-door attaching screws using Torx Bit Tool J-25359-02. Lower and remove latch below glass slide channel.

Installation

- (1) Install plastic clips to latch.
- (2) Install locking control link to latch and all insulators to link.
- (3) Install latch behind slide channel while guiding locking control link to proper holes in door upper panel.
- (4) Install and tighten door latch attaching screws using Torx Bit Tool J-25359-02 to 45 inch-pounds (5.1 Nm) torque.
- (5) Connect cylinder lock link to latch through opening in door and secure with clip.
- (6) Connect outside door handle-to-latch link.
- (7) Attach remote link to latch clip.
- (8) Install locking control rod sleeve.

NOTE: Ensure positive clip retention at all connections.

- (9) Install water dam paper and door trim panel.

Lubrication

Remove the door latch upper attaching screw and apply a few drops of engine oil. Apply several drops of oil to the latch opening. Open and close the door several times to distribute the oil.

If the latch has been removed, wash it in a cleaning solvent. Dry with compressed air and apply AMC Lubriplate or equivalent.

Lock Striker

The striker provides a secure retention point for the latch and prevents up and down movement of the door. It consists of a threaded, tempered-steel pin with a polyurethane sleeve for durable and cushioned operation. Use Torx Bit Tool J-25359-02 for removal, installation or adjustment.

Adjustment

- (1) Determine proper striker alignment (fig. 3J-29).

NOTE: Lock striker should enter latch smoothly with no up or down movement of the door. Door should open smoothly without dragging on striker.

- (2) Loosen and move striker to desired position.
- (3) Tighten striker to 52 foot-pounds (70.1 Nm) torque.
- (4) Apply lubricant to striker pin.

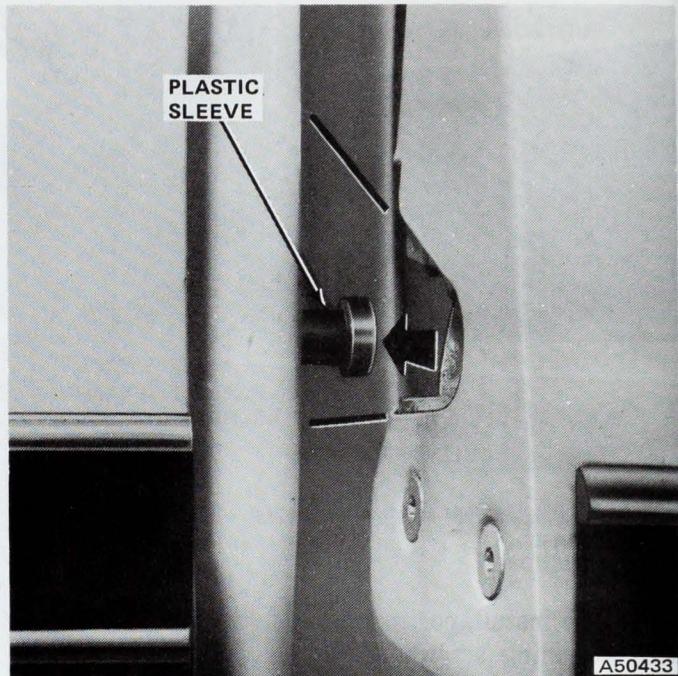


Fig. 3J-29 Lock Striker Alignment

CAUTION: Check for proper functioning. It is possible to set the striker in so far that the door is closed tight with only the safety catch engaged.

HINGE SYSTEM

The hinges use a bronze-type bushing at the pivot pins. The hinge pin is serrated under the head to prevent movement of the pin. Front and rear hinges have door stops on both upper and lower hinges.

The front door check stop is located on the lower hinge. A serrated roller must depress a torsion rod in order for the door to pass the check stop and be held open.

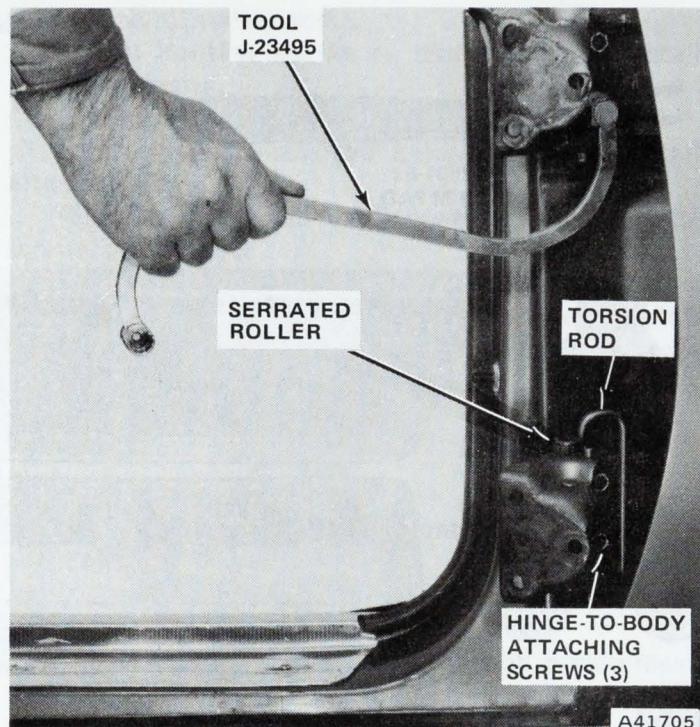
Replacement

- (1) Remove front fender lower splash guard assembly to gain access to front door hinge attaching screws.
- (2) Position door in holding fixture.
- (3) Remove all hinge-to-door attaching screws.
- (4) Remove door from car.
- (5) Remove hinge-to-post attaching screws and remove hinges.
- (6) Clean replacement hinges in a suitable solvent and blow dry with compressed air.
- (7) Color coat hinges to match body.
- (8) Lubricate hinges with AMC Lubriplate or equivalent.
- (9) Position hinges on post and install attaching screws.
- (10) Position door in body opening and install hinge-to-door attaching screws.
- (11) Remove door holding fixture.

- (12) Perform necessary door adjustments (refer to Door Adjustments).
 (13) Install front fender lower splash guard assembly (if removed).

Door Adjustments

- (1) Remove lock striker.
- (2) Determine adjustment required.
 - (a) If in, out, up or down adjustment is required, loosen hinge attaching screws at door and position door.
 - (b) Tighten hinge attaching screws (refer to Torque Specifications).
 - (c) If tilt or additional up or down adjustment is required, loosen hinge attaching screws on body pillar with tool J-23495 and move door to desired position (fig. 3J-30).
 - (d) Tighten hinge attaching screws (refer to Torque Specifications).
- (3) Install and adjust lock striker, tighten to 52 foot-pounds (70.1 Nm) torque.



**Fig. 3J-30 Front Door Adjustment—Gremlin-Concord-AMX
(Door Removed for Clarity)**

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)		USA (in.lbs.)	
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
GREMLIN-CONCORD-AMX FRONT DOOR				
Door Lock Striker	71	61-81	52 ft-lbs.	45-60 ft-lbs.
Screw - Door Hinge to Body	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Latch Remote Handle Assembly	5	4-7	45	35-65
Screw - Door Outside Handle	4	3-7	35	25-60
Screw and Washer - Door Latch Assembly	5	5-7	45	40-60
GREMLIN-CONCORD-AMX FRONT DOOR GLASS				
Down Stop Window Regulator	10	9-11	90	80-100
Nut - Link to Inner Panel	10	9-11	90	80-100
Screw - Channel Door Window Guide	10	9-11	90	80-100
Screw - Door Window Front Channel to Door Inner Panel Lower	10	9-11	90	80-100
Screw - Front Door Window - Front Guide Upper Bracket	3	2-4	23	20-35
Screw - Door Window Glass Front	5	3-6	40	30-50
Screw - Door Window Glass Rear	5	3-6	40	30-50
Screw - Door Window Regulator	10	9-11	90	80-100
Screw - Door - Window Regulator Handle	5	3-6	40	30-50

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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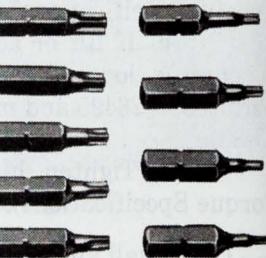
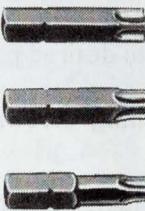
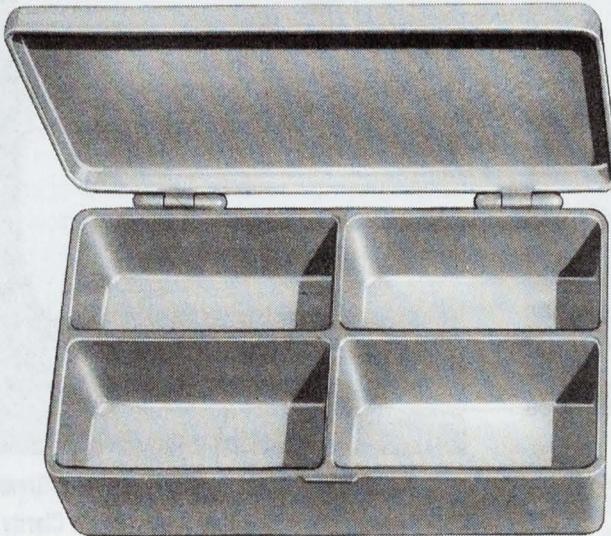
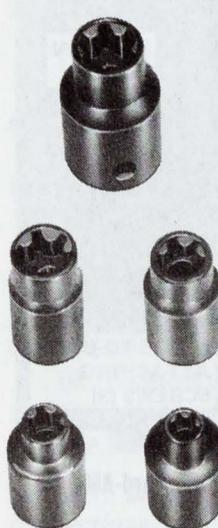
Special Tools



J-2631-01
TRIM PAD
DEPRESSOR



J-23495
DOOR HINGE
WRENCH



J-25359-02
TORX BIT AND
SOCKET SET

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MATADOR COUPE FRONT DOORS

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Exterior Mouldings	3J-29	Special Tools	3J-39
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Outside Mirrors	3J-33		

DOOR TRIM

Window Regulator Handles

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen-head screw. To remove the handle, remove the screw, pull the handle straight off the shaft, and remove the nylon washer, if equipped.

Install the handle with the knob forward, the handle horizontal and the glass all the way up. Install the attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

Armrest Replacement

- (1) Remove attaching screws and overlay strip, if equipped.
- (2) Remove attaching screws, armrest, and locking control handle.
- (3) To install, position armrest and locking control handle on door and install attaching screws.
- (4) Install overlay strip and attaching screws, if equipped.

Trim Panel

Removal

The trim panel (fig. 3J-31) is attached at the upper edge by a lip that overlaps the door inner panel top flange. Various trim portions including trim panel overlays and mouldings are clinched to the door trim panel with metal tabs. Trim panel mouldings and overlays are individually serviced.

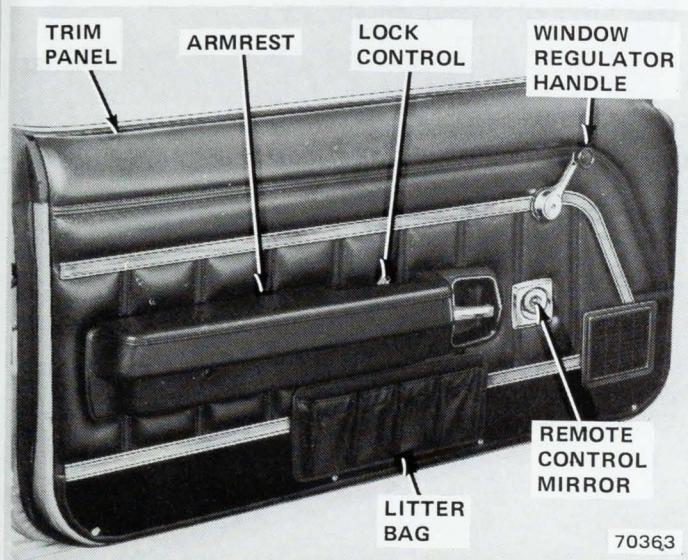


Fig. 3J-31 Door Interior Components—Matador Coupe

- (1) Remove window regulator handle and nylon washer or electric window control switch.
- (2) Remove attaching screws and armrest overlay strip, if equipped.
- (3) Remove attaching screws, armrest and locking lever.
- (4) Remove remote control mirror escutcheon, if equipped.
- (5) Remove assist handle, if equipped.
 - (a) Pry off plastic cover at ends.
 - (b) Remove attaching screws and assist handle.
- (6) Remove attaching screws along bottom and upper corners of trim panel.
- (7) Pry out trim panel-to-door clips (along sides) with Trim Pad Depressor J-2631-01.
- (8) Remove trim panel by pulling out and up to disengage panel from inner door panel top flange.

Installation

- (1) Position trim panel on door with lip of panel fully engaged on inner door panel top flange and insert clips into holes.
- (2) Install attaching screws along bottom and upper corners of panel.
- (3) Install remote control mirror escutcheon, if equipped.

- (4) Install assist handle.

(a) Position handle on trim panel and install attaching screws.

(b) Snap plastic covers into ends.

(5) Position armrest and locking lever and install attaching screws.

(6) Install armrest overlay strip and attaching screws, if equipped.

(7) Install nylon washer, correctly position window regulator handle and install attaching screw or install electric window control switch. Tighten handle attaching to 40 inch-pounds (4.5 Nm) torque.

Replacement

- (1) Remove trim panel.

(2) If equipped with door mounted speaker, proceed as follows:

(a) Remove speaker grille and bezel from original trim panel.

(b) Cut speaker grille opening in replacement panel, following outline provided on backside of panel, using a sharp knife.

(c) Install speaker grille and bezel on replacement panel.

- (3) If equipped with litter bag proceed as follows:

(a) Remove litter bag, turn-buttons and plates from original panel.

(b) Straighten turn-button attaching tabs.

(c) Position litter bag on replacement panel and mark turn-button locations.

(d) Remove litter bag and place turn-buttons over locating marks made with litter bag. Mark locations of turn-button tabs on panel.

(e) Using a sharp knife, cut 1/4-inch slits at locations marked for turn-button tabs.

(f) Insert turn-button tabs into slits cut into panel. On backside of panel install plates and crimp over turn-button tabs.

(g) Install litter bag on turn-buttons.

- (4) Install trim panel.

EXTERIOR MOULDINGS

Metal Mouldings

All metal mouldings are attached with plastic clips; however, some mouldings are also fastened with a T-bolt and acorn nut at each end.

Replacement

- (1) Remove acorn nut from T-bolt, if equipped.

(2) Pry moulding off clip using fiber or wooden stick.

(3) Remove door plastic moulding clips.

(4) Install replacement door plastic clips.

(5) Press moulding onto clips.

(6) Install acorn nuts on T-bolts, if equipped.

Vinyl Mouldings

Replacement

- (1) Use 3M Release Agent, or equivalent, to soften adhesive bond.
 - (a) Using snorkel tube, spray between moulding and door panel.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.
 - (2) Peel moulding from panel.
 - (3) Attach end of string to panel where moulding is to be applied.
 - (4) Run string at desired level along panel and attach at end with tape.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine if a solvent will damage the paint, test solvent on a hidden area of the car.

- (5) Clean adhesive residue and wax from surface with cloth dampened with 3M General Purpose Adhesive Cleaner, isopropyl alcohol, or equivalent.

NOTE: Surface must be clean and dry for moulding to adhere.

- (6) Heat metal to minimum 68°F with heat gun J-25070 or heat lamp.

CAUTION: Do not install vinyl protective mouldings on fresh paint that has not been properly cured.

- (7) Position moulding with backing paper on car and cut to desired length.

- (8) Peel backing paper and press moulding to body of car, parallel with string.

(9) Firmly press moulding to body with roller or heavy hand pressure.

- (10) Remove string.

(11) Check door opening; if necessary, trim moulding with razor blade.

(12) If moulding comes loose, apply 3M Plastic and Emblem Adhesive, or equivalent, to back surface of moulding and press firmly to body. Pull bond apart and allow to remain open 10 to 15 seconds. Press moulding firmly back on door panel and hold in position for 10 seconds.

SEALING SYSTEM

The front door sealing system consists of water dam paper and various weatherstrips which seal the door and door opening from water and wind leaks. Refer to Chapter 3A for water and wind leak diagnosis.

Window Belt Weatherstrips

Removal

A hollow-core, flocked, black-rubber weatherstrip is used on the door belt line. The inner weatherstrip is

stapled to the trim panel. The outer weatherstrip is fastened into slotted holes with barbed spring tension clips.

Removal

- (1) Pull weatherstrip from door flange at retaining clips.
- (2) Insert screwdriver into retaining slots and slightly distort slots (fig. 3J-32).
- (3) Lift and remove weatherstrip.

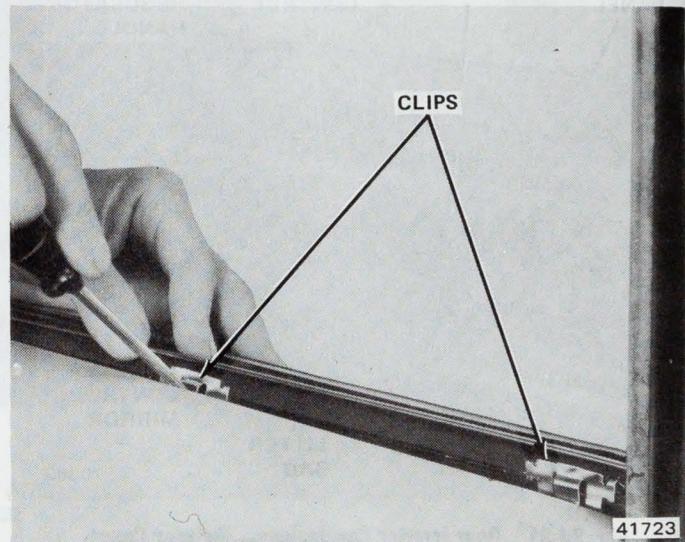


Fig. 3J-32 Clip Removal

NOTE: To remove trim panel weatherstrip, remove door trim panel and staples securing weatherstrip to panel.

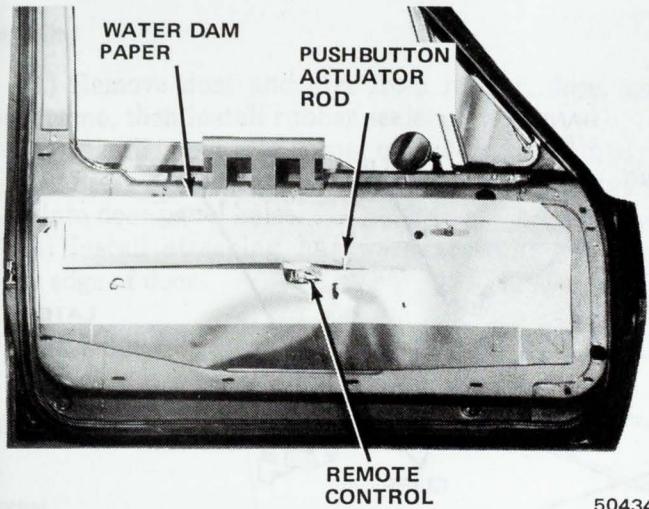
Installation

- (1) Straighten each weatherstrip clip retaining slot.
- (2) Insert center section of each clip into each door flange slot.
- (3) Install weatherstrip on door flange at retaining clips.

NOTE: To replace the door trim panel weatherstrip, drill three 1/8-inch diameter holes through the weatherstrip and trim panel flange and fasten the weatherstrip with 1/8-inch diameter pop rivets.

Water Dam Paper

Waterproof water dam paper (fig. 3J-33) is attached to the door inner panel with a bead of adhesive sealer. To avoid tearing the paper during removal, use a putty knife to separate the paper and sealer from the inner panel.



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Fig. 3J-33 Water Dam Paper Installation—Typical

Scuff Plate

The aluminum scuff plate, attached to the body sill, acts as a stepping plate and provides a finished appearance to the bottom of the door opening. Oval-head screws retain the scuff plate to the body.

Weatherseal Retainer

Removal

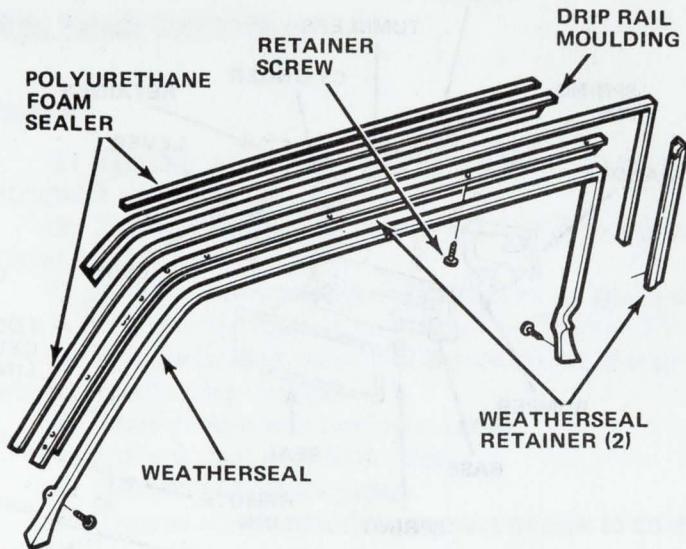
- (1) Apply 3M Release Agent, or equivalent, to adhesive to soften bond.
 - (a) Using snorkel tube, spray between weatherseal and retainer.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive.
- (2) Pull weatherseal from retainer (leave ends attached to body) before solvent evaporates and adhesive resets (fig. 3J-34).
- (3) Remove weatherseal retainer screws.
- (4) Remove weatherseal retainers and drip rail moulding.

NOTE: When removing weatherseal retainers, avoid damaging polyurethane foam sealer installed between the drip rail moulding, body, and weatherseal retainer. If damaged, replace with closed cell foam sealer.

Installation

- (1) Install weatherseal retainers and drip rail moulding (fig. 3J-34).
- (2) Install weatherseal retainer attaching screws, align weatherseal retainer, and tighten screws.
- (3) Insert weatherseal into retainers starting at upper rear corner.

NOTE: If necessary to bond weatherseal at the corners, use 3M Super Weatherstrip Adhesive, or equivalent.



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Fig. 3J-34 Weatherseal Retainer Assembly—Matador Coupe

Alignment

- (1) Apply 3M Release Agent, or equivalent, to adhesive to soften bond.
 - (a) Using snorkel tube, spray between weatherseal and retainer.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.
- (2) Pull weatherseal (fig. 3J-6) from retainers (leave ends attached to body) before solvent evaporates and adhesive resets.
- (3) Loosen or remove weatherseal retainer attaching screws.
- (4) Align weatherseal retainers to desired positions and tighten or install attaching screws.
- (5) Insert weatherseal into retainers.

NOTE: If necessary to bond weatherseal at the corners, use 3M Super Weatherstrip Adhesive, or equivalent.

Door and Window Frame Rubber Sealers

The door rubber sealer (fig. 3J-35) is made of extruded hollow core neoprene. The rubber sealer is attached to the door inner panel with push-in plastic retainers.

Two types of plastic retainers are used to retain the rubber sealer to the door below the belt line. One threads into a nonstretchable tape moulded into the rubber sealer while the other has a T-stud which is hooked into the rubber sealer. Barbs on the fasteners depress when inserted in the holes and spread when fully inserted.

Replacement Rubber Sealer

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

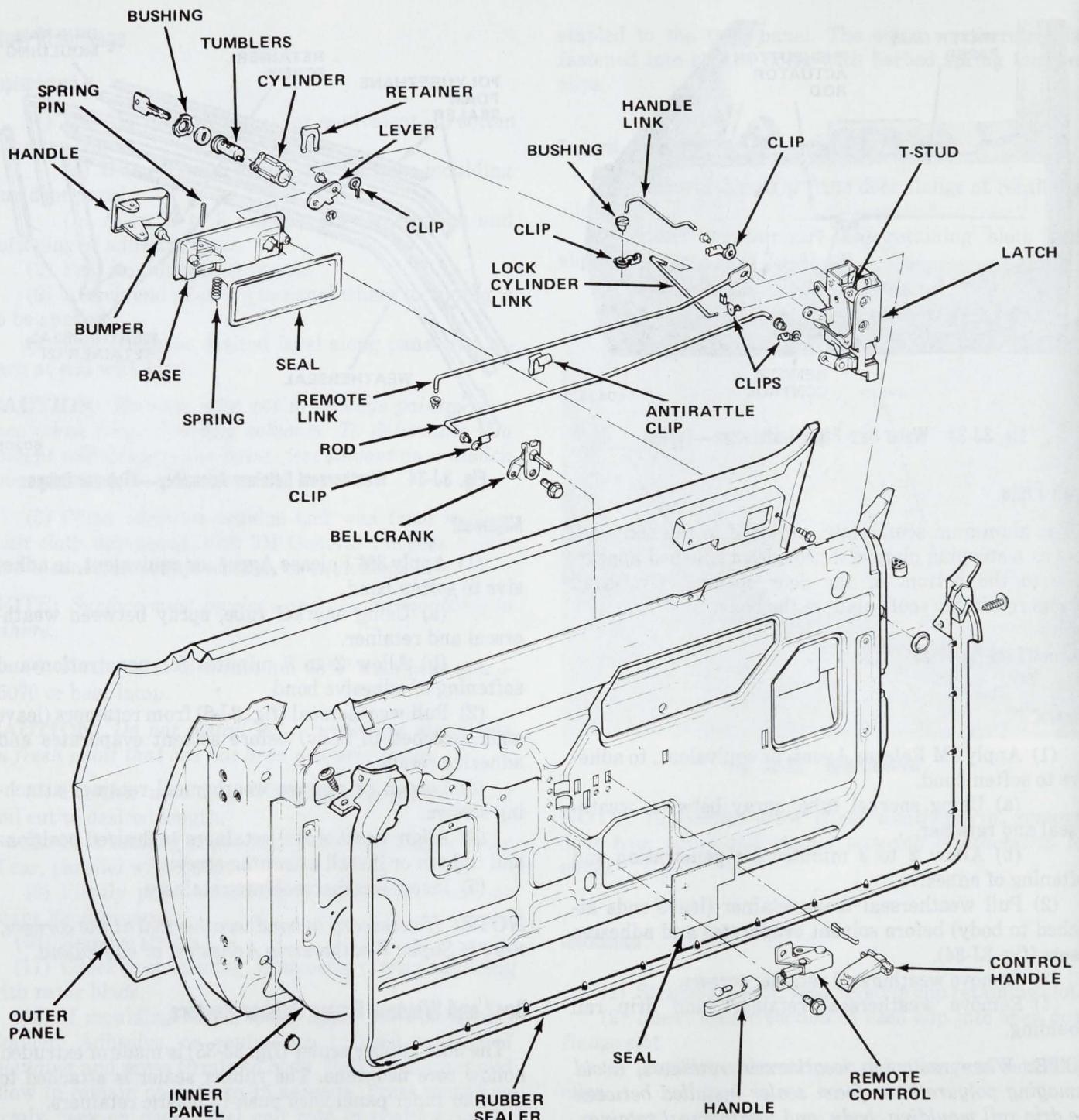


Fig. 3J-35 Door Components—Matador Coupe

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Maintenance of Rubber Sealers

Cold weather may cause the door rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth to clean rubber sealers. Clean dirt from the body pillars and from all points where the rubber sealer contacts the body. Apply AMC Silicone Spray Lubricant or equivalent to rubber sealers.

CAUTION: Do not use graphite, brake fluid, or wax on rubber sealers.

Removal

- (1) Remove attaching hardware at front and rear upper edge of door.
- (2) Carefully remove rubber sealer (fig. 3J-35) from door using needlenose pliers to remove plastic retainers from door panel holes.

Installation

- (1) Remove dust and dirt from rubber, door, and door frame, then install rubber sealer.
- (2) Install upper rear corner of sealer to door first.
- (3) Press plastic retainers, starting at rear edge of door, into door panel holes.
- (4) Install attaching hardware at front and rear upper edge of door.

OUTSIDE MIRRORS**Standard Mirror****Removal**

- (1) Remove screws attaching mirror to door panel.
- (2) Remove mirror and gasket from door panel.

Installation

- (1) Position gasket and mirror on door panel.
- (2) Install screws attaching mirror to door panel.

Left Remote Control Mirror**Removal**

- (1) Remove trim nut and escutcheon from door trim panel.
- (2) Remove door trim panel.
- (3) Remove water dam paper.
- (4) Remove locking nut attaching control handle assembly to bracket.
- (5) Remove screws attaching remote mirror to door panel.

NOTE: Check and note routing of remote mirror control cables before removing mirror assembly from door panel.

- (6) Remove remote mirror and gasket from door panel.

Installation

- (1) Assemble remote mirror and gasket.
- (2) Insert remote mirror control cables into door outer panel and duplicate routing of control cables into door inner panel as previously noted during removal.
- (3) Install screws attaching remote mirror to door panel.
- (4) Install locking nut attaching control handle assembly to bracket.
- (5) Check mirror operation before proceeding.
- (6) Install water dam paper.
- (7) Install door trim panel.
- (8) Install escutcheon and trim nut on door trim panel.

Right Remote Control Mirror**Removal**

- (1) Remove trim nut and escutcheon from instrument cluster bezel.
- (2) Remove instrument cluster bezel as detailed in Chapter 3C.
- (3) Remove instrument panel crash pad, to gain access to control cable routing, as detailed in Chapter 3C.
- (4) Remove locking nut attaching control handle assembly to mounting bracket.
- (5) Remove right side cowl trim panel.
- (6) Remove right door trim panel.
- (7) Remove water dam paper.
- (8) Remove screws attaching remote mirror to door panel.

NOTE: Check and note routing of remote mirror control cables before removing remote mirror from door panel.

- (9) Remove remote mirror and gasket from door panel.

Installation

- (1) Assemble remote mirror and gasket.
- (2) Insert remote mirror control cables into door outer panel and duplicate routing of control cables into door inner panel, harness tube and instrument panel as previously noted during removal.
- (3) Install screws attaching remote mirror to door panel.
- (4) Install locking nut attaching control handle assembly to mounting bracket on instrument panel.
- (5) Check mirror operation before proceeding and correct any binding condition.
- (6) Install water dam paper.
- (7) Install door trim panel.
- (8) Install right side cowl trim panel.
- (9) Install instrument panel crash pad as detailed in Chapter 3C.
- (10) Install instrument cluster bezel as detailed in Chapter 3C.
- (11) Install escutcheon and trim nut on instrument cluster bezel.

WINDOW SYSTEM**Door Glass****Minor Adjustment**

Glass conformity to the body-mounted latex foam weatherseal should consist of a uniform 1/4-inch bead of rubber overlap at the front and top edges of the glass. A parallel glass-to-weatherseal contact should be provided

at the rear edge with maximum glass-to-weatherseal pressure being applied at the upper rear corner.

(1) Check weatherseal retainer alignment and adjust if necessary.

(2) Remove door trim panel and water dam paper.

(3) Adjust glass.

(a) **Fore or Aft Adjustment.** Loosen upper guide plate-to-door window nuts and washers (fig. 3J-36). Move glass to desired position and tighten nuts and washers (refer to Torque Specifications).

(b) **Tilt-In or Tilt-Out Adjustment.** Loosen lower guide assembly screws. Move glass in or out to desired position and tighten screws (refer to Torque Specifications).

(c) **Up-Travel Adjustment.** Loosen front and rear door-mounted, up-stop bracket screws. Position brackets and tighten screws (refer to Torque Specifications).

(d) **Down-Travel Adjustment.** Loosen down-stop bracket screw (fig. 3J-36). Position bracket and tighten screws (refer to Torque Specifications).

(4) Adjust retaining brackets for ease of operation and to eliminate glass rattle.

(5) Install water dam paper and trim panel.

Major Adjustment

(1) Remove door trim panel and water dam paper.

(2) Loosen all adjusting component screws to permit free movement of glass (fig. 3J-36).

- Two glass up-stops
- Two retaining screws
- Upper guide plate assembly
- Lower guide assembly
- Regulator up-stop

(3) Shift glass from inside car with door closed until proper fit between glass and weatherseal is obtained.

(4) Tighten all adjusting component screws (refer to Torque Specifications).

(5) Check door glass operation and perform minor adjustment if necessary.

(6) Install water dam paper and door trim panel.

Removal

(1) Remove door trim panel and water dam paper.

(2) Loosen door glass retaining brackets (fig. 3J-37).

(3) Remove up-stops from window.

(4) Support glass and remove nuts attaching glass to guide plate.

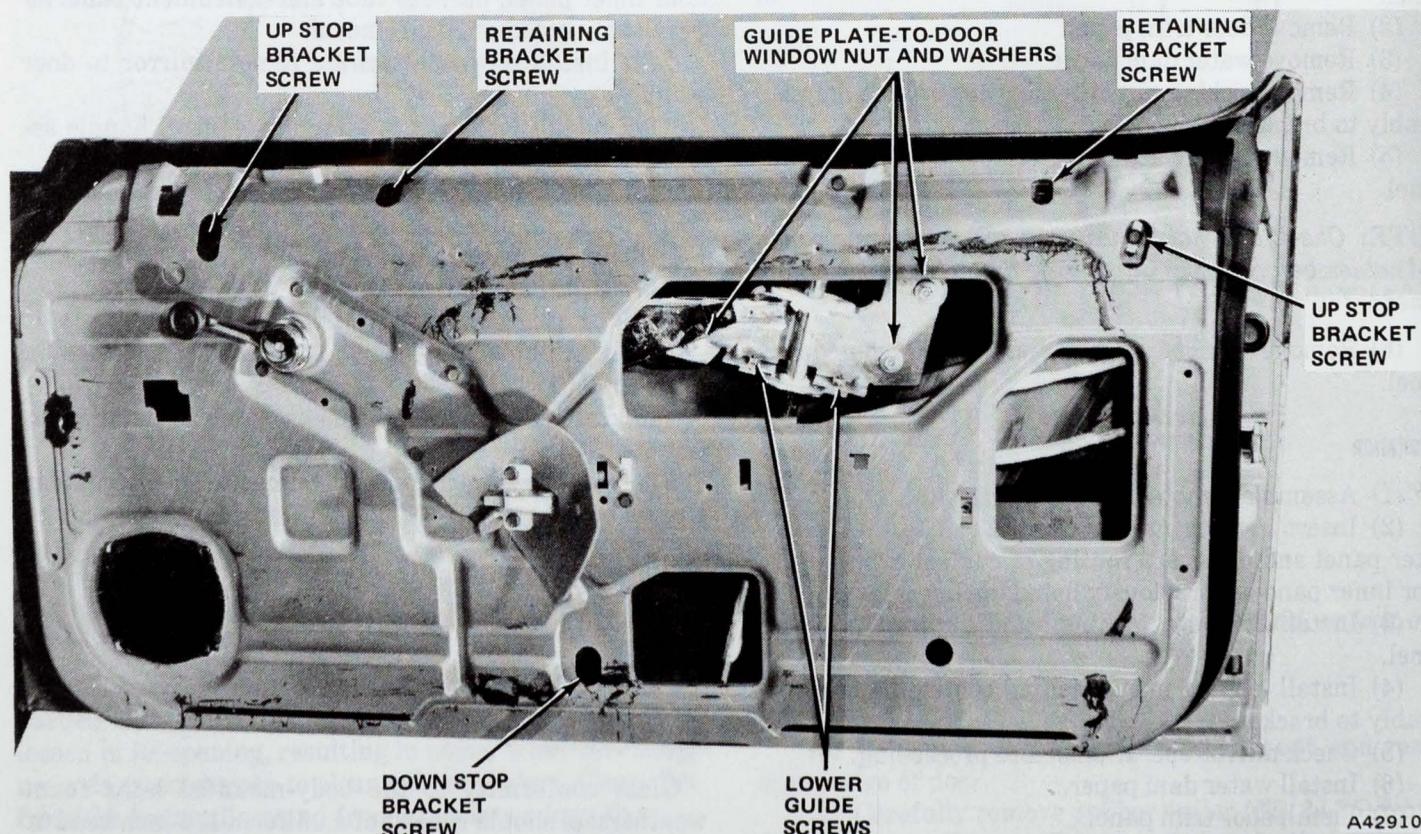
(5) Lift glass up and out of door.

Installation

(1) Install glass in door and align holes in glass with plate.

(2) Install and tighten nuts to 70 inch-pounds (8 Nm) torque.

(3) Install and tighten up-stops to 70 inch-pounds (8 Nm) torque.



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Fig. 3J-36 Glass Adjustments—Matador Coupe

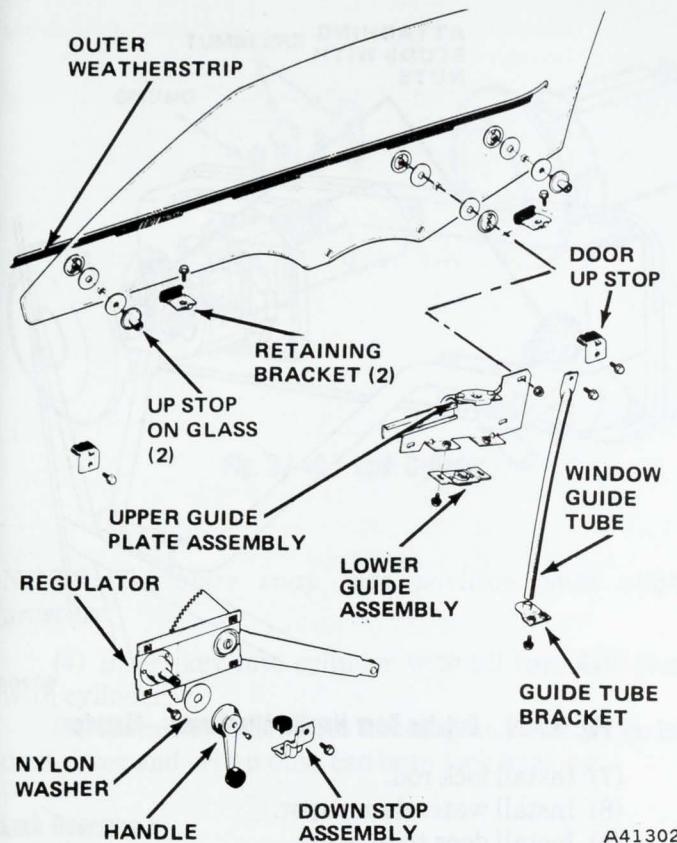


Fig. 3J-37 Glass Assembly and Attaching Parts—Matador Coupe

- (4) Perform necessary glass adjustment and tighten attaching hardware (refer to Torque Specifications).
- (5) Install water dam paper and door trim panel.

Glass Fasteners

Replacement

NOTE: The front door glass contains plastic fasteners for attaching the window regulator arms and regulator arm guides.

- (1) Remove door glass and place on covered bench.
- (2) Unscrew fastener halves and remove from glass.
- (3) Position fastener halves on glass and screw together.
- (4) Install door glass.

Window Regulators

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Raise window and apply masking tape to each side of glass, to keep glass from falling during regulator removal.
- (3) Remove regulator-to-inner panel attaching pop rivets, using 1/4-inch drill bit (fig. 3J-37).
- (4) Remove regulator arm roller from upper guide plate.

(5) Move regulator forward and lower to bottom of door.

(6) Remove regulator by pushing to outer panel and through access opening.

Installation

- (1) Insert replacement regulator through access opening.
- (2) Insert regulator arm roller into upper guide plate.
- (3) Install replacement regulator-to-inner panel attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.
- (4) Install water dam paper and door trim panel.

Glass Guide Tube

Removal

- (1) Lower glass fully.
- (2) Remove door trim panel and water dam paper.
- (3) Remove attaching screw at top of tube and remove tube by pulling up and out of door.

Installation

- (1) Position tube in plate assembly and guide tube bracket.
- (2) Install attaching screw at top of tube and tighten to 90 inch-pounds (10.2 Nm) torque.
- (3) Perform necessary glass adjustments, if necessary.
- (4) Install water dam paper and door trim panel.

LOCK SYSTEM

Inside Remote Handle or Control

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Remove remote link from remote control by prying up link (fig. 3J-38).
- (3) Remove remote control attaching screws and remote control.

Installation

- (1) Position remote control on door inner panel and install attaching screws. Tighten screws to 45 inch-pounds (5.1 Nm) torque.
- (2) Insert control link in remote control and press firmly into retainer.
- (3) Check operation.
- (4) Install water dam paper and trim panel.

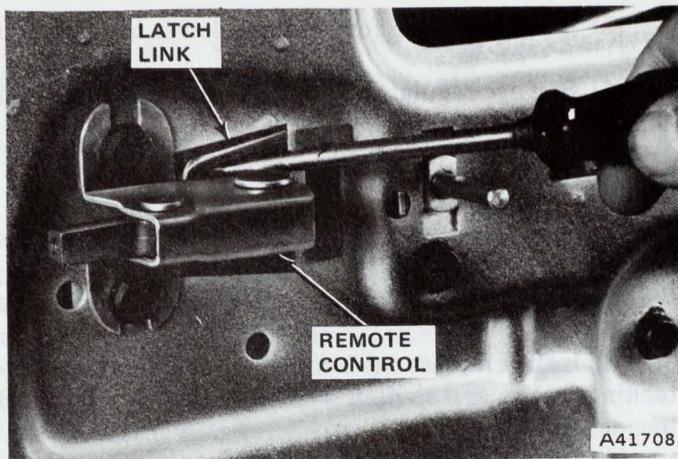


Fig. 3J-38 Remote Control Link Removal—Matador

Inside Locking Controls

Replacement

The inside control handle is slip fit on front door locking control bellcrank. The bellcrank is attached to the door inner panel. The remote rod from the bellcrank to the door latch operates a common lock lever with the outside door key lock.

- (1) Remove door trim panel and water dam paper.
- (2) Remove rod retaining clip at bellcrank handle and disconnect rod.
- (3) Remove attaching screw and bellcrank.
- (4) Install bellcrank and attaching screw. Tighten screw to 40 inch-pounds (4.5 Nm) torque.
- (5) Connect rod at remote handle and install clip.
- (6) Install water dam paper and door trim panel.

Outside Handle Assembly

The outside door handle assembly is recessed and attached to the door with two fasteners. A seal between the handle and the door outer panel provides protection from water leakage, lock freezeup, and paint finish damage.

The front door handle includes a key lock cylinder.

The door handle lever operates the latch through a connecting link. Pulling the door handle lever releases the door latch. A rubber bumper provides a soft stop for the lever when released. A coil spring returns the lever to its normal position.

Replacement

- (1) Remove door trim panel.
- (2) Remove water dam paper.
- (3) Raise window to closed position.
- (4) Disconnect rods from handle (fig. 3J-39).
- (5) Remove nuts attaching gasket and handle to door (fig. 3J-39). Remove handle.
- (6) Attach seal and handle to door with nuts and tighten to 38 inch-pounds (4.3 Nm) torque.

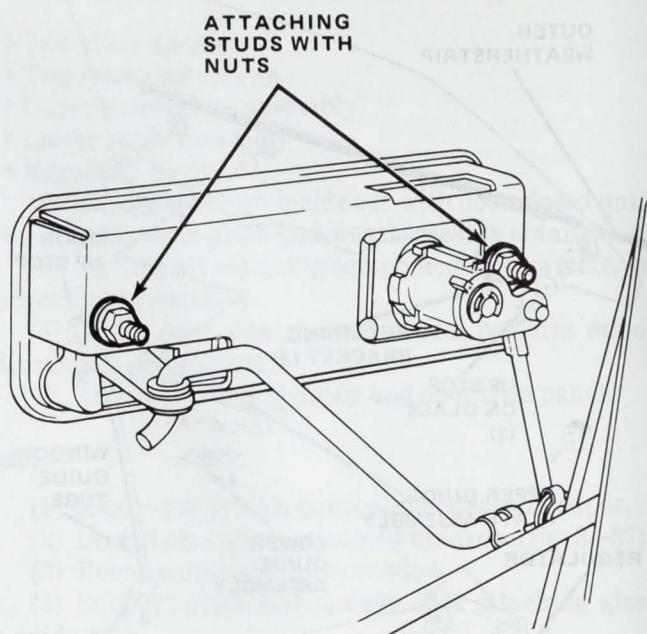


Fig. 3J-39 Outside Door Handle Attachment—Matador

- (7) Install lock rod.
- (8) Install water dam paper.
- (9) Install door trim panel.

Key Lock

The door key lock cylinder is encased in the cylinder housing. A spring-loaded shutter covers the key hole.

The lock is held against the inside surface of the door outer panel by a retaining clip.

The door lock cylinder is housed in the outside door handle assembly and retained with a spring clip.

Door Lock Cylinder

Coded tumblers (numbered one through five) and coil springs are available through the Parts Distribution Centers. The unmarked tumblers are number one.

The lock cylinder (less tumblers), housing, dust cover, and cap are available as a kit. Whenever a lock cylinder replacement is required, the service cylinder can be coded to match the existing key as follows (fig. 3J-40).

- (1) Obtain key code number and corresponding five-digit bitting number.
- (2) Remove cylinder lock assembly from door.
- (3) Code new cylinder to the existing key bitting number (example: Code 42135).
 - (a) Start at key end of cylinder, insert coil spring and number four tumbler into first slot and snap tumbler into place.
 - (b) Insert number two tumbler into second slot and unmarked tumbler (which is number one) into third slot.
 - (c) Insert number three tumbler into fourth slot and number five tumbler into fifth slot.

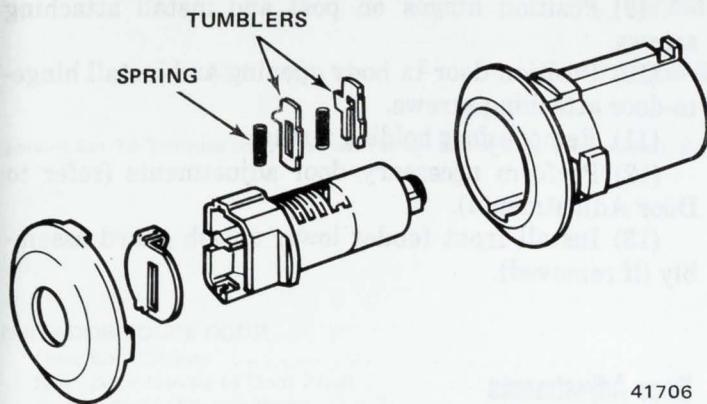


Fig. 3J-40 Lock Cylinder

NOTE: Tumblers snap into position with slight pressure.

(4) Insert key into cylinder with all tumblers flush with cylinder.

(5) Install cylinder into housing and install spring dust cover and crimp dust cap onto lock housing.

Lock Operation

To lock the front door without a key, push the lock lever to the lock position.

Lubrication

To prevent lock freezeup, or sticky or difficult key lock operation, use a powdered graphite in the key hole. Use alcohol or benzene to clean lock assembly. Dry cylinder with compressed air and lubricate.

Removal

(1) Remove front door trim panel and water dam paper.

(2) Disconnect door handle-to-door latch link at latch.

(3) Disconnect lock cylinder-to-door latch link at lock cylinder.

(4) Remove nuts attaching outside door handle and remove door handle.

(5) Pry lock retainer out of grooves and remove lock housing.

Installation

(1) Align notches and install lock housing.

(2) Install lock retainer clip on housing.

(3) Install outside door handle and nuts. Tighten nuts to 38 inch-pounds (4.3 Nm) torque.

(4) Connect lock cylinder-to-door latch link at lock cylinder.

(5) Connect door handle-to-door latch link at latch.

(6) Install water dam paper and door trim panel.

Door Latch

Removal

(1) Remove door trim panel and water dam paper.

(2) Remove remote link from remote control by prying up link (fig. 3J-38).

(3) Remove remote control link.

(4) Pivot remote control link to permit slot in remote control link to disengage from T-stud on door latch.

(5) Remove links and rod from latch.

(6) Remove latch-to-door attaching screws and remove latch (fig. 3J-35).

Installation

(1) Position latch in door and install attaching screws. Tighten latch attaching screws to 45 inch-pounds (5.1 Nm) torque.

(2) Install links and rod on latch.

(3) Install remote control link (tilt door lock lever and insert key slot of remote link) onto T-stud of door lock lever (fig. 3J-35).

(4) Insert control link in remote control and press firmly into retainer.

(5) Check operation.

(6) Install water dam paper and trim panel.

Lubrication

Remove the door latch upper attaching screw and apply a few drops of engine oil. Apply several drops of oil to the latch opening. Open and close the door several times to distribute the oil.

If the latch has been removed, wash it in a cleaning solvent. Dry with compressed air and apply AMC Lubriplate or equivalent.

Lock Striker

The striker provides a secure retention point for the latch and prevents up and down movement of the door. It consists of a threaded, tempered-steel pin with a polyurethane sleeve for durable and cushioned operation. Use Torx Bit Tool J-25359-02 for removal, installation or adjustment.

Adjustment

(1) Determine proper striker alignment (fig. 3J-41).

NOTE: Lock striker should enter latch smoothly with no up or down movement of the door. Door should open smoothly without dragging on striker.

(2) Loosen and move striker to desired position.

(3) Tighten striker to 52 foot-pounds (70.5 Nm) torque.

(4) Apply lubricant to striker pin.

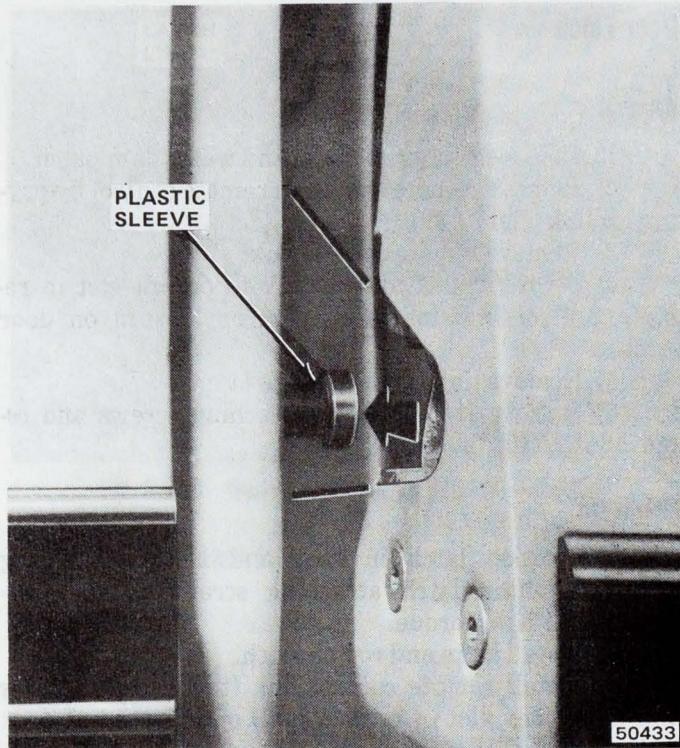


Fig. 3J-41 Lock Striker Alignment

CAUTION: Doublecheck for proper functioning. It is possible to set the striker in so far that the door is closed tight with only the safety catch engaged.

HINGE SYSTEM

The hinges use a bronze-type bushing at the pivot pins. The hinge pin is serrated under the head to prevent movement of the pin.

The front door check stop is located on the lower hinge. A serrated roller must depress a torsion rod in order for the door to pass the check stop and be held open.

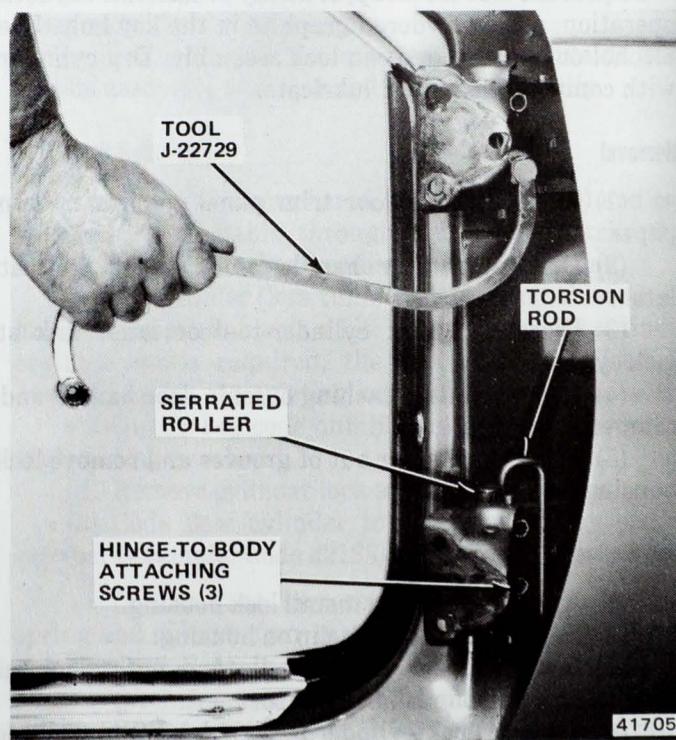
Replacement

- (1) Remove front fender lower splash guard assembly to gain access to front door hinge attaching screws.
- (2) Position door in holding fixture.
- (3) Remove all hinge-to-door attaching screws.
- (4) Remove door from car.
- (5) Remove hinge-to-post attaching screws and remove hinges.
- (6) Clean replacement hinges in a suitable solvent and blow dry with compressed air.
- (7) Color coat hinges to match body.
- (8) Lubricate hinges with AMC Lubriplate or equivalent.

- (9) Position hinges on post and install attaching screws.
- (10) Position door in body opening and install hinge-to-door attaching screws.
- (11) Remove door holding fixture.
- (12) Perform necessary door adjustments (refer to Door Adjustments).
- (13) Install front fender lower splash guard assembly (if removed).

Door Adjustments

- (1) Remove lock striker.
- (2) Determine adjustment required.
 - (a) If in, out, up or down adjustment is required, loosen hinge attaching screws at door and position door.
 - (b) Tighten hinge attaching screws (refer to Torque Specifications).
 - (c) If tilt or additional up-or-down adjustment is required, loosen hinge attaching screws on body pillar and move door to desired position.
 - (d) Tighten hinge attaching screws (refer to Torque Specifications).
- (3) Install and adjust lock striker, tighten to 52 foot-pounds (70.5 Nm) torque.

Fig. 3J-42 Door Adjustment—Matador Coupe
(Door Removed for Clarity)

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
MATADOR COUPE DOOR				
Door Lock Striker	71	61-81	52 ft-lbs.	45-60 ft-lbs.
Nut - Door Handle to Door Panel	4	3-7	38	25-60
Screw - Door Hinge to Body	54	47-61	40 ft-lbs.	35-45 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Locking Control to Door Inner Panel	5	4-6	40	35-55
Screw - Handle Door Latch Remote Assembly	5	4-6	40	35-55
Screw - Locking Latch to Door Inner Panel	5	5-7	45	40-60
Screw and Washer Assembly - Remote to Door Inner Panel	5	4-7	45	35-65
MATADOR COUPE DOOR GLASS				
Nut Plate Assembly to Door Window	8	7-9	70	60-80
Screw - Bracket Door Glass Down Stop to Door	10	9-11	90	80-100
Screw - Door Glass Retainer Bracket Assembly	8	7-9	70	60-80
Screw - Door Window Regulator Assembly	10	9-11	90	80-100
Screw - Door Window Regulator Handle	5	3-6	40	30-50
Screw - Door Window Stops to Door	10	9-11	90	80-100
Screw - Guide Assembly to Plate	10	9-11	90	80-100
Screw Tube Assembly to Door	10	9-11	90	80-100
Spanner Nuts	8	7-9	70	60-80

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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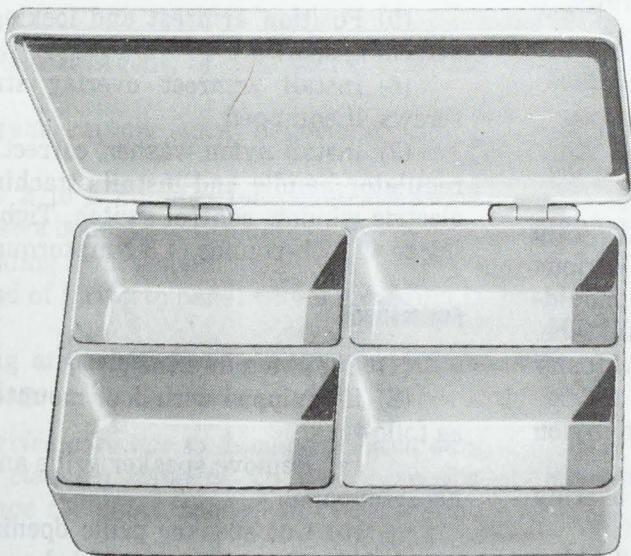
Special Tools



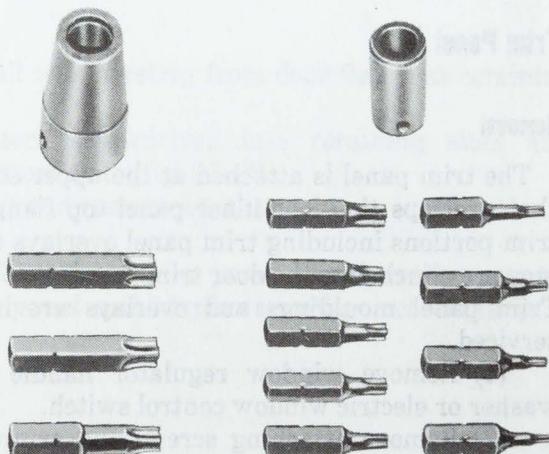
J-2631-01
TRIM PAD DEPRESSOR



J-22729
DOOR HINGE WRENCH



J-25359-02 TORX BIT AND SOCKET SET



70455A

MATADOR SEDAN AND STATION WAGON FRONT DOORS

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DOOR TRIM

Window Regulator Handles

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen-head screw. To remove the handle, remove the screw, pull the handle straight off the shaft, and remove the nylon washer, if equipped.

Install the handle with the knob forward, the handle horizontal and the glass all the way up. Install the attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

Armrest Replacement

- (1) Remove attaching screws and overlay strip, if equipped.
- (2) Remove attaching screws, armrest, and locking control handle.
- (3) To install, position armrest and locking control handle on door and install attaching screws.
- (4) Install overlay strip and attaching screws, if equipped.

Trim Panel

Removal

The trim panel is attached at the upper edge by a lip that overlaps the door inner panel top flange. Various trim portions including trim panel overlays and mouldings are clinched to the door trim panel with metal tabs. Trim panel mouldings and overlays are individually serviced.

- (1) Remove window regulator handle and nylon washer or electric window control switch.
- (2) Remove attaching screws and armrest overlay strip, if equipped.
- (3) Remove attaching screws, armrest and locking lever.
- (4) Remove remote control mirror escutcheon, if equipped.

- (5) Remove assist handle, if equipped.
 - (a) Pry off plastic cover at ends.
 - (b) Remove attaching screws and assist handle.
- (6) Remove attaching screws along bottom and upper corners of trim panel.
- (7) Pry out trim panel-to-door clips (along sides) with Trim Pad Depressor J-2631-01.
- (8) Remove trim panel by pulling out and up to disengage panel from inner door panel top flange.

Installation

- (1) Position trim panel on door with lip of panel fully engaged on inner door panel top flange and insert clips into holes.
- (2) Install attaching screws along bottom and upper corners of panel.
- (3) Install remote control mirror escutcheon, if equipped.
- (4) Install assist handle.
 - (a) Position handle on trim panel and install attaching screws.
 - (b) Snap plastic covers into ends.
- (5) Position armrest and locking lever and install attaching screws.
- (6) Install armrest overlay strip and attaching screws, if equipped.
- (7) Install nylon washer, correctly position window regulator handle and install attaching screw or install electric window control switch. Tighten handle attaching to 40 inch-pounds (4.5 Nm) torque.

Replacement

- (1) Remove trim panel.
- (2) If equipped with door mounted speaker, proceed as follows:
 - (a) Remove speaker grille and bezel from original trim panel.
 - (b) Cut speaker grille opening in replacement panel, following outline provided on backside of panel, using a sharp knife.
 - (c) Install speaker grille and bezel on replacement panel.

- (3) If equipped with litter bag proceed as follows:
 - (a) Remove litter bag, turn-buttons and plates from original panel.
 - (b) Straighten turn-button attaching tabs.
 - (c) Position litter bag on replacement panel and mark turn-button locations.
 - (d) Remove litter bag and place turn-buttons over locating marks made with litter bag. Mark locations of turn-button tabs on panel.
 - (e) Using a sharp knife, cut 1/4-inch slits at locations marked for turn-button tabs.
 - (f) Insert turn-button tabs into slits cut into panel. On backside of panel install plates and crimp over turn-button tabs.
 - (g) Install litter bag on turn-buttons.
- (4) Install trim panel.

EXTERIOR MOULDINGS

Metal Mouldings

All metal mouldings are attached with plastic clips; however, some mouldings are also fastened with a T-bolt and acorn nut at each end.

Replacement

- (1) Remove acorn nut from T-bolt, if equipped.
- (2) Pry moulding off clip using fiber or wooden stick.
- (3) Remove door plastic moulding clips.
- (4) Install replacement door plastic clips.
- (5) Press moulding onto clips.
- (6) Install acorn nuts on T-bolts, if equipped.

Vinyl Mouldings

Replacement

- (1) Use 3M Release Agent, or equivalent, to soften adhesive bond.
 - (a) Using snorkel tube, spray between moulding and door panel.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.
 - (2) Peel moulding from panel.
 - (3) Attach end of string to panel where moulding is to be applied.
 - (4) Run string at desired level along panel and attach at end with tape.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine if a solvent will damage the paint, test solvent on a hidden area of the car.

- (5) Clean adhesive residue and wax from surface with cloth damped with 3M General Purpose Adhesive Cleaner, isopropyl alcohol, or equivalent.

NOTE: Surface must be clean and dry for moulding to adhere.

- (6) Heat metal to minimum 68°F with heat gun J-25070 or heat lamp.

CAUTION: Do not install vinyl protective mouldings on fresh paint that has not been properly cured.

- (7) Position moulding with backing paper on car and cut to desired length.

- (8) Peel backing paper and press moulding to body of car, parallel with string.

- (9) Firmly press moulding to body with roller or heavy hand pressure.

- (10) Remove string.

- (11) Check door opening; if necessary, trim moulding with razor blade.

- (12) If moulding comes loose, apply 3M Plastic and Emblem Adhesive, or equivalent, to back surface of moulding and press firmly to body. Pull bond apart and allow to remain open 10 to 15 seconds. Press moulding firmly back on door panel and hold in position for 10 seconds.

SEALING SYSTEM

The front door sealing system consists of water dam paper and various weatherstrips which seal the door and door opening from water and wind leaks. Refer to Chapter 3A for water and wind leak diagnosis.

Window Belt Weatherstrips

A hollow-core, flocked, black-rubber weatherstrip is used on the door belt line. The inner weatherstrip is stapled to the trim panel. The outer weatherstrip is fastened into slotted holes with barbed spring tension clips.

Removal

- (1) Pull weatherstrip from door flange at retaining clips.
- (2) Insert screwdriver into retaining slots and slightly distort slots (fig. 3J-43).
- (3) Lift and remove weatherstrip.

NOTE: To remove trim panel weatherstrip, remove door trim panel and staples securing weatherstrip to panel.

Installation

- (1) Straighten each weatherstrip clip retaining slot.
- (2) Insert center section of each clip into each door flange slot.
- (3) Install weatherstrip on door flange at retaining clips.

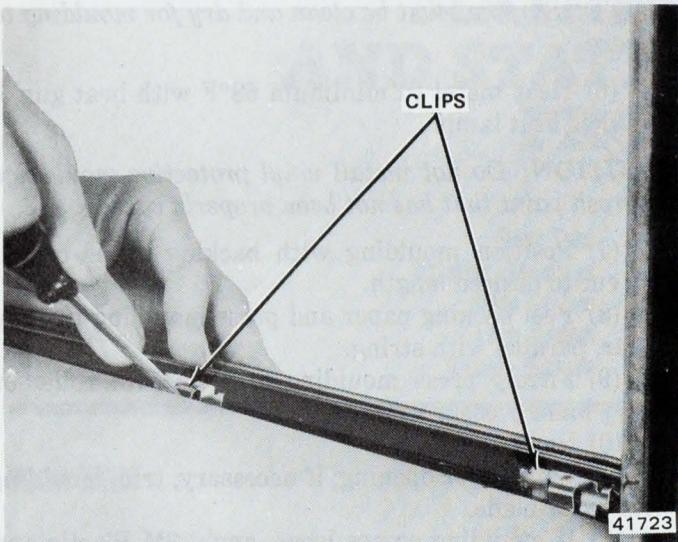


Fig. 3J-43 Clip Removal

NOTE: To replace the door trim panel weatherstrip, drill three 1/8-inch diameter holes through the weatherstrip and trim panel flange and fasten the weatherstrip with 1/8-inch diameter pop rivets.

Water Dam Paper

Waterproof water dam paper (fig. 3J-44) is attached to the door inner panel with a bead of adhesive sealer. To avoid tearing the paper during removal, use a putty knife to separate the paper and sealer from the inner panel.

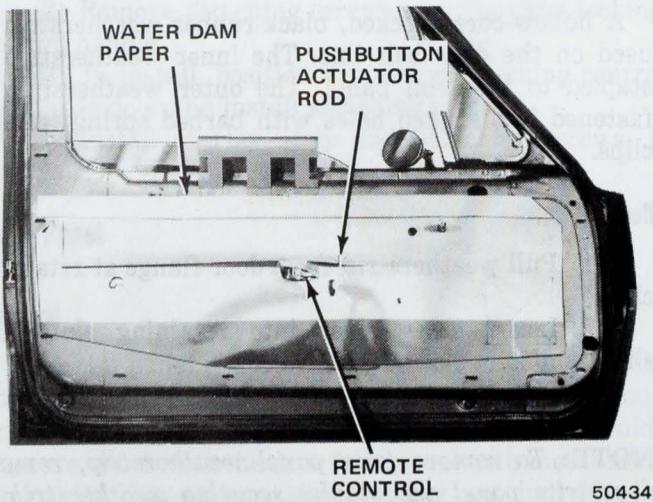


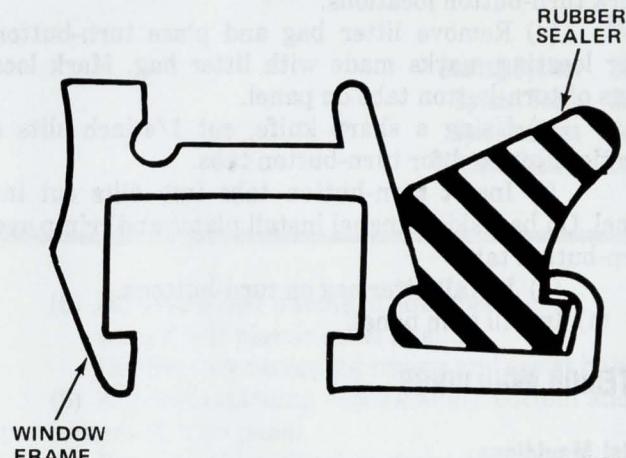
Fig. 3J-44 Water Dam Paper Installation—Typical

Scuff Plate

The aluminum scuff plate, attached to the body sill, acts as a stepping plate and provides a finished appearance to the bottom of the door opening. Oval-head screws retain the scuff plate to the body.

Door and Window Frame Rubber Sealers

The door rubber sealer (fig. 3J-45) consists of a sponge rubber core with a smooth, dense rubber skin on the outside.

Fig. 3J-45 Window Frame and Rubber Sealer—
Matador Sedan and Station Wagon

Two types of plastic retainers are used to retain the rubber sealer to the door below the belt line. One threads into a nonstretchable tape moulded into the rubber sealer while the other has a T-stud which is hooked into the rubber sealer. Barbs on the fasteners depress when inserted in the holes and spread when fully inserted.

A double-pronged fastening plate and screw secure the rubber sealer at the belt line on the hinge and latch side of the door inner panel.

Replacement Rubber Sealer

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

Maintenance of Rubber Sealers

Cold weather may cause the door rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth to clean rubber sealers. Clean dirt from the body pillars and from all points where the rubber sealer contacts the body. Apply AMC Silicone Spray Lubricant or equivalent to rubber sealers.

CAUTION: Do not use graphite, brake fluid, or wax on rubber sealers.

Removal

(1) Carefully remove rubber sealer (fig. 3J-46) from door using needlenose pliers to remove plastic retainers from door panel holes.

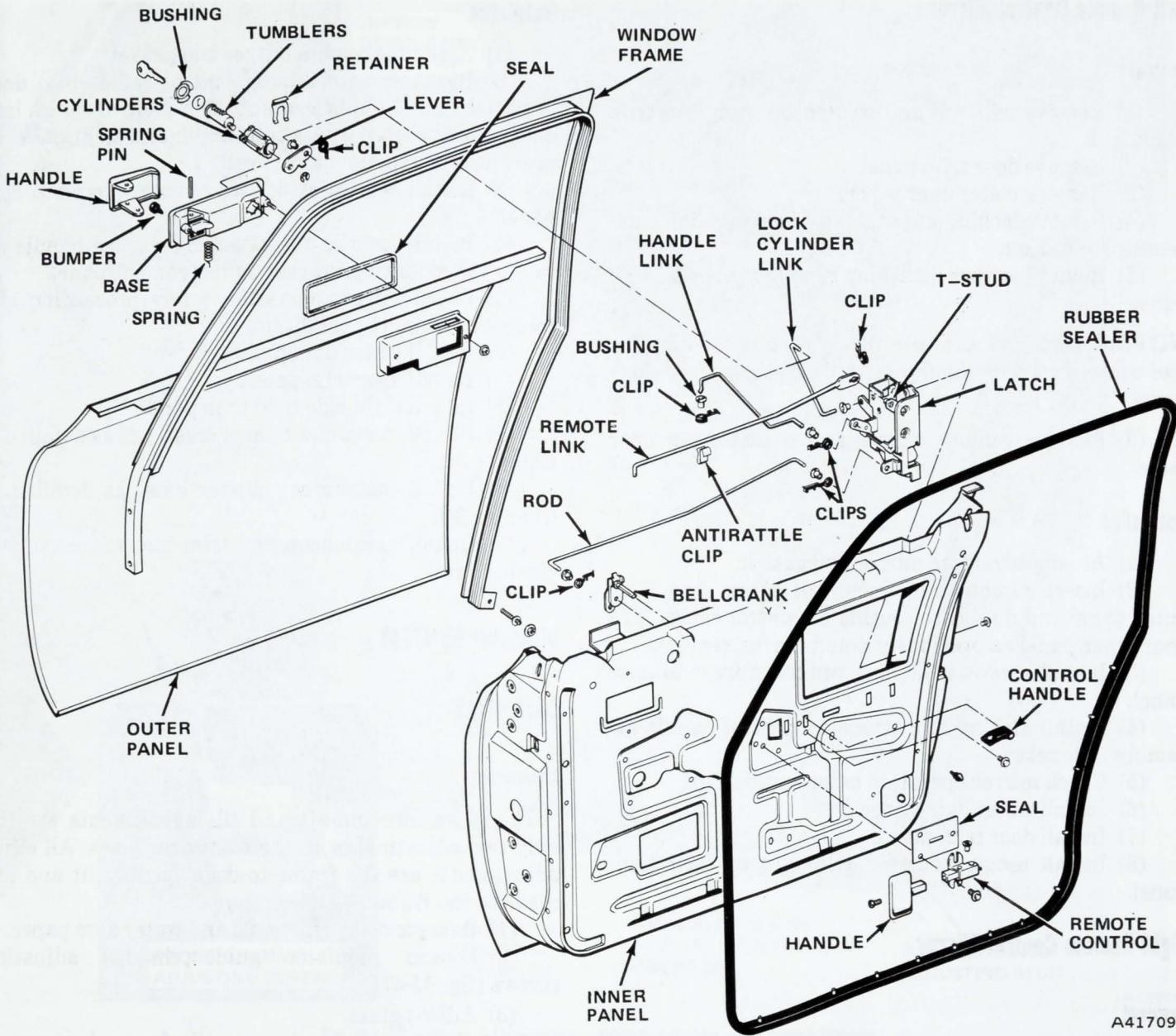


Fig. 3J-46 Door Components—Matador Sedan and Station Wagon

(2) Use 3M Release Agent or equivalent to soften adhesive bond.

(a) Using snorkel tube, spray between sealer and window frame.

(b) Allow 2 to 3 minutes for penetration and softening of adhesive.

(3) Pull sealer carefully from frame before solvent evaporates and adhesive resets.

Installation

(1) Remove dust and dirt from rubber sealer, door, and door frame.

(2) Install lower section of sealer to door first.

(3) Press retainers into door panel holes.

(4) Apply 1/8-inch bead of 3M Super Weatherstrip Adhesive, or equivalent to window frame, start at upper rear corner and move forward along top of door.

(5) Place inner shoulder of sealer in channel.

(6) Press outer shoulder into channel with a wedge-shaped fiber stick.

OUTSIDE MIRRORS

Standard Mirror

Removal

(1) Remove screws attaching mirror to door panel.

(2) Remove mirror and gasket from door panel.

Installation

(1) Position gasket and mirror on door panel.

(2) Install screws attaching mirror to door panel.

Left Remote Control Mirror

Removal

- (1) Remove trim nut and escutcheon from door trim panel.
- (2) Remove door trim panel.
- (3) Remove water dam paper.
- (4) Remove locking nut attaching control handle assembly to bracket.
- (5) Remove screws attaching remote mirror to door panel.
- (6) Remove remote mirror and gasket from door panel.

NOTE: Check and note routing of remote mirror control cables before removing mirror assembly from door panel.

- (1) Assemble remote mirror and gasket.
- (2) Insert remote mirror control cables into door outer panel and duplicate routing of control cables into door inner panel as previously noted during removal.
- (3) Install screws attaching remote mirror to door panel.
- (4) Install locking nut attaching control handle assembly to bracket.
- (5) Check mirror operation before proceeding.
- (6) Install water dam paper.
- (7) Install door trim panel.
- (8) Install escutcheon and trim nut on door trim panel.

Right Remote Control Mirror

Removal

- (1) Remove trim nut and escutcheon from instrument cluster bezel.
- (2) Remove instrument cluster bezel as detailed in Chapter 3C.
- (3) Remove instrument panel crash pad, to gain access to control cable routing, as detailed in Chapter 3C.
- (4) Remove locking nut attaching control handle assembly to mounting bracket.
- (5) Remove right side cowl trim panel.
- (6) Remove right door trim panel.
- (7) Remove water dam paper.
- (8) Remove screws attaching remote mirror to door panel.
- (9) Remove remote mirror and gasket from door panel.

NOTE: Check and note routing of remote mirror control cables before removing remote mirror from door panel.

Installation

- (1) Assemble remote mirror and gasket.
- (2) Insert remote mirror control cables into door outer panel and duplicate routing of control cables into door inner panel, harness tube and instrument panel as previously noted during removal.
- (3) Install screws attaching remote mirror to door panel.
- (4) Install locking nut attaching control handle assembly to mounting bracket on instrument panel.
- (5) Check mirror operation before proceeding and correct any binding condition.
- (6) Install water dam paper.
- (7) Install door trim panel.
- (8) Install right side cowl trim panel.
- (9) Install instrument panel crash pad as detailed in Chapter 3C.
- (10) Install instrument cluster bezel as detailed in Chapter 3C.
- (11) Install escutcheon and trim nut on instrument cluster bezel.

WINDOW SYSTEM

Door Glass

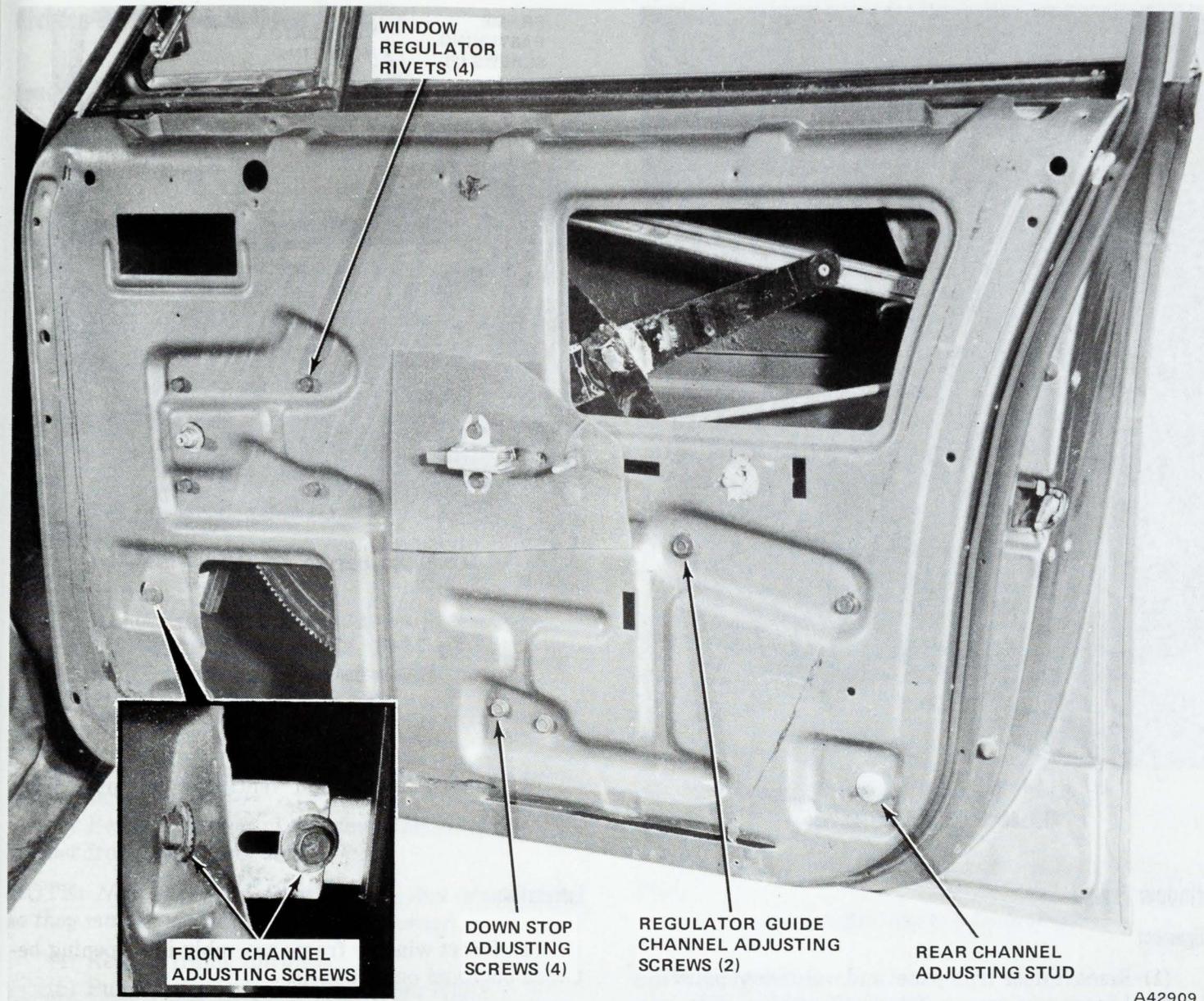
Adjustment

The glass fore-and-aft and tilt adjustments are the only two adjustments on the front door glass. All other adjustments are for frame-to-door opening fit and are made to the frame.

- (1) Remove door trim panel and water dam paper.
- (2) Loosen regulator guide channel adjusting screws (fig. 3J-47).
- (3) Adjust glass.
 - (a) Move channel up to tilt forward corner of glass forward.
 - (b) Move channel down to tilt aftward.
- (4) Loosen front channel screw and move channel to reduce or increase free play between channels.
- (5) Tighten all adjusting components screws (refer to Torque Specifications).
- (6) Install water dam paper and door trim panel.

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Raise glass to approximately one inch from top of frame.
- (3) Apply masking tape to each side of glass over top of door panels to keep glass from falling during regulator removal.
- (4) Remove regulator.
- (5) Remove channel aluminum frame lower adjustable mounting stud nut.



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Fig. 3J-47 Glass Adjustments—Matador Sedan and Station Wagon

(6) Insert screwdriver (fig. 3J-48) through lower mounting hole and engage screwdriver into stud mounting hole in bracket.

(7) Push aluminum frame toward outside to clear inner door panel.

(8) Push frame toward rear (lock side) to disengage channel from glass.

CAUTION: Extra care must be taken not to bend or distort the bottom channel during removal or installation.

(9) Remove tape from glass.

(10) Slide glass out of division slide channel.

(11) Remove glass from door by moving between inner panel and division channel.

Installation

NOTE: Prior to installation, clean and lubricate glass bottom channel roller, guide channel, and window regulator.

(1) Position window assembly into door and support it in raised position with masking tape.

(2) Install window regulator assembly and remove masking tape.

(3) Position guide channel and glass rear slide channel.

(4) Adjust guide channel and glass rear slide channel so that window operates freely.

(5) Adjust window down-stops to desired travel limits.

(6) Tighten attaching hardware to 90 inch-pounds torque.

(7) Install water dam paper and door trim panel.



**Fig. 3J-48 Disengage Frame from Channel—
Matador Sedan and Station Wagon**

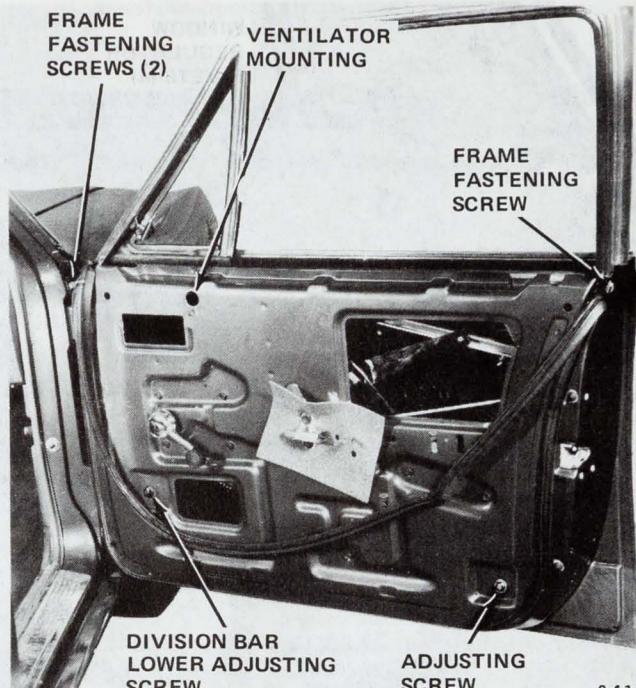
Window Frame

Alignment

- (1) Remove door trim panel and water dam paper.
- (2) Loosen two screws (fig. 3J-49) at hinge side, one at lock side, and one at bottom of inside panel.
- (3) Pull top of window frame toward body and close door.
- (4) Adjust frame to obtain proper fit between rubber sealer and door opening.
- (5) Check glass adjustment to window frame.
- (6) Install and tighten adjusting hardware (refer to Torque Specifications).
- (7) Install water dam paper and door trim panel.

Removal

- (1) Lower window and remove rubber sealer from aluminum frame only.
- (2) Remove door trim panel and water dam paper.
- (3) Remove two attaching screws at hinge side and one at latch side (fig. 3J-49).
- (4) Remove frame lower adjusting screw at latch side.
- (5) Remove ventilator upper attaching screw and division slide channel lower adjusting bracket screw.



**Fig. 3J-49 Window Frame Alignment—
Matador Sedan and Station Wagon**

- (6) Remove frame and ventilator assembly from door.

Installation

- (1) Insert window frame assembly into opening between door and outer panels.
- NOTE:** Window must be in position in both division channel and window frame channels.
- (2) Install window frame attaching screws at hinge side and at latch side (do not tighten).
- (3) Install ventilator mounting screw to inner panel.
- (4) Install lower division channel adjusting bracket screw.
- (5) Install lower frame adjusting screw (do not tighten).
- NOTE:** Check the alignment of window frame in opening by closing door and noting the position.
- (6) Adjust frame up or down and in or out with adjustments provided.
- (7) Adjust glass, if necessary.
- (8) Tighten adjusting screws (refer to Torque Specifications).
- (9) Install water dam paper and door trim panel.
- (10) Install rubber sealer in aluminum frame.

Division Channel and Ventilator Assembly

Removal

The front door division channel, part of the ventilator assembly, has a door glass slide channel on one side and a rubber sealer on the ventilator side. The ventilator assembly is fastened to the front of the door aluminum window frame with screws and to the door inner panel with a screw at the top and a mounting bracket near the bottom using stud, spring, washers, and nut.

- (1) Remove door trim panel and water dam paper.
- (2) Remove door rubber sealer from window frame.
- (3) Remove aluminum frame-to-door attaching screws.
- (4) Remove top ventilator assembly-to-door attaching screws.
- (5) Lower window completely.
- (6) Remove aluminum frame and ventilator from door.
- (7) Remove two ventilator attaching screws from aluminum frame.
- (8) Remove ventilator from aluminum frame.

Disassembly

- (1) Remove ventilator assembly from door window frame.
- (2) Remove upper pivot bracket from ventilator division channel.
- (3) Remove friction nut, spring, washers, and stop washer from lower pivot shaft.

NOTE: Note positions of the washers and stop washer so they may be replaced in the proper order.

- (4) Remove frame and glass.
- (5) Pull weatherstrip from ventilator frame.
- (6) Remove ventilator lock handle and wave washer using small drift to push out attaching pin.

Assembly

- (1) Assemble ventilator lock handle to shaft on ventilator frame (make sure that wave washer is in position).
- (2) Install weatherstrip into frame with soapy solution.
- (3) Install lower pivot shaft in frame (make sure that spring, washers, stop washer, and friction nut are in proper order).
- (4) Insert upper pivot bracket pin into recess in ventilator glass frame and install bracket to ventilator division channel.
- (5) Install ventilator assembly to door window frame.

- (6) Adjust glass and frame assembly for proper opening, closing, and stop point by adjusting friction nut at lower pivot shaft and stop washer, respectively.

Installation

- (1) Install ventilator on aluminum frame.
- (2) Slide rear end of frame in latch side first.
- (3) Insert front end of frame into hinge side of door while aligning channel with glass.
- (4) Simultaneously install both ends of frame at the same time into door (approximately 15 inches).

NOTE: The latch side end of the frame will contact an offset in the door.

- (5) Align channel with glass at latch side, if necessary.
- (6) Push down latch side of frame to bypass offset.
- (7) Install remainder of frame.
- (8) Install attaching hardware loosely and perform door window frame adjustment.
- (9) Check glass operation and adjust, if necessary.
- (10) Tighten all attaching hardware (refer to Torque Specifications).
- (11) Install door rubber sealer on window frame.
- (12) Install water dam paper and door trim panel.

Glass Replacement

- (1) Remove glass from ventilator frame.
- (2) Scrape any remaining glazing strip from recess in frame.
- (3) Position new glazing strip on glass edge to obtain equal spacing on both sides of glass.
- (4) Apply soapy solution to glazing strip and recess in window frame.
- (5) Position and press glass and glazing strip into frame.
- (6) Trim excess glazing strip from glass.

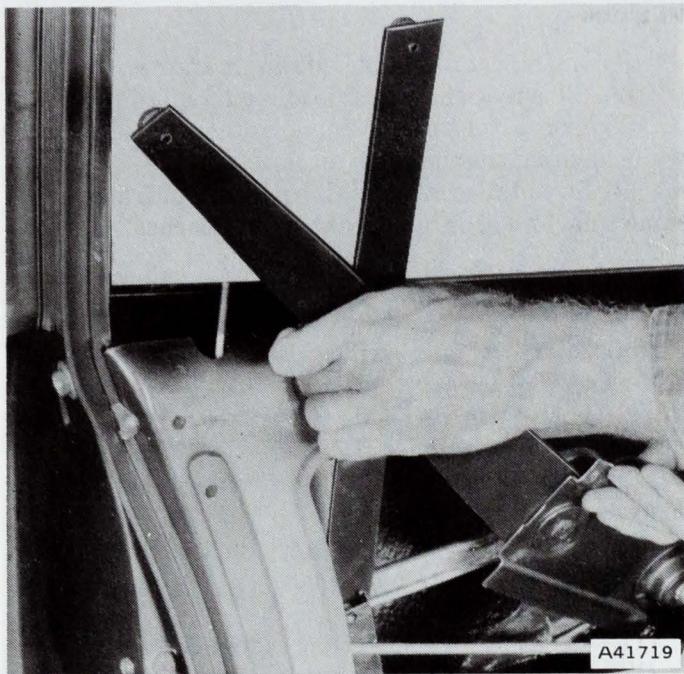
Window Regulators

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Raise window and apply masking tape to each side of glass over top of door panel to keep glass from falling during regulator removal.
- (3) Remove regulator-to-inner panel attaching pop rivets, using 1/4-inch drill bit.
- (4) Remove regulator arm guide channel.
- (5) Remove regulator arm from glass bottom channel.
- (6) Move regulator forward and lower to bottom of door.
- (7) Remove regulator by pushing to outer panel and through access opening (fig. 3J-50).

Installation

- (1) Insert replacement regulator through access opening.



**Fig. 3J-50 Window Regulator Removal—
Matador Sedan and Station Wagon**

- (2) Position regulator and install regulator arm into glass bottom channel.
- (3) Install regulator arm guide channel and attaching screws. Tighten screws to 90 inch-pounds (10.2 Nm) torque.
- (4) Install replacement regulator-to-inner panel attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.
- (5) Adjust regulator guide channel, if required.
- (6) Install water dam paper and door trim panel.

Glass Slide Channel

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Remove door glass.
- (3) Remove slide channel from window frame and lower channel.

Installation

- (1) Begin installation of slide channel in top rear corner of door frame.
- (2) Apply soapy solution to bottom 6 inches of slide channel back.
- (3) Install slide channel into rear window frame channel until slack is removed.
- (4) Bond rear vertical run into window frame with 3M Super Weatherstrip Adhesive, or equivalent.
- (5) Install forward portion of slide channel into window frame opening and lower guide channel.

NOTE: Be sure slide channel is firmly seated into door frame and does not bridge at corners.

- (6) Install door glass.
- (7) Install water dam paper and door trim panel.

LOCK SYSTEM

Inside Remote Handle or Control

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Remove remote link from remote control by prying up link (fig. 3J-51).
- (3) Remove remote control attaching screws and remote control (fig. 3J-46).

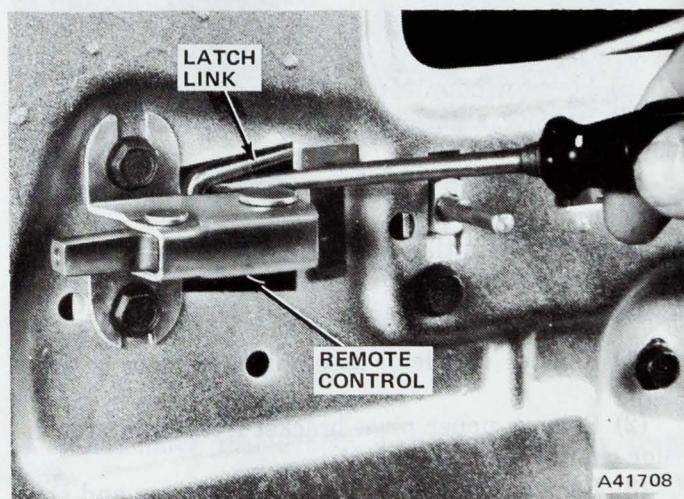


Fig. 3J-51 Remote Control Link Removal—Matador

Installation

- (1) Position remote control on door inner panel and install attaching screws. Tighten screws to 45 inch-pounds (5.1 Nm) torque.
- (2) Insert control link in remote control and press firmly into retainer.
- (3) Check operation.
- (4) Install water dam paper and trim panel.

Inside Locking Controls

Replacement

The inside control handle is slip fit on front door locking control bellcrank (fig. 3J-46). The bellcrank is attached to the door inner panel. The remote rod from the bellcrank to the door latch operates a common lock lever with the outside door key lock.

- (1) Remove door trim panel and water dam paper.
- (2) Remove rod retaining clip at bellcrank handle and disconnect rod.
- (3) Remove attaching screw and bellcrank.
- (4) Install bellcrank and attaching screw. Tighten screw to 40 inch-pounds (4.5 Nm) torque.

- (5) Connect rod at remote handle and install clip.
- (6) Install water dam paper and door trim panel.

Outside Handle Assembly

The outside door handle assembly is recessed and attached to the door with two fasteners. A seal between the handle and the door outer panel provides protection from water leakage, lock freezeup, and paint finish damage.

The front door handle includes a key lock cylinder.

The door handle lever operates the latch through a connecting link. Pulling the door handle lever releases the door latch. A rubber bumper provides a soft stop for the lever when released. A coil spring returns the lever to its normal position.

Replacement

- (1) Remove door trim panel.
- (2) Remove water dam paper.
- (3) Raise window to closed position.
- (4) Disconnect rods from handle (fig. 3J-52).

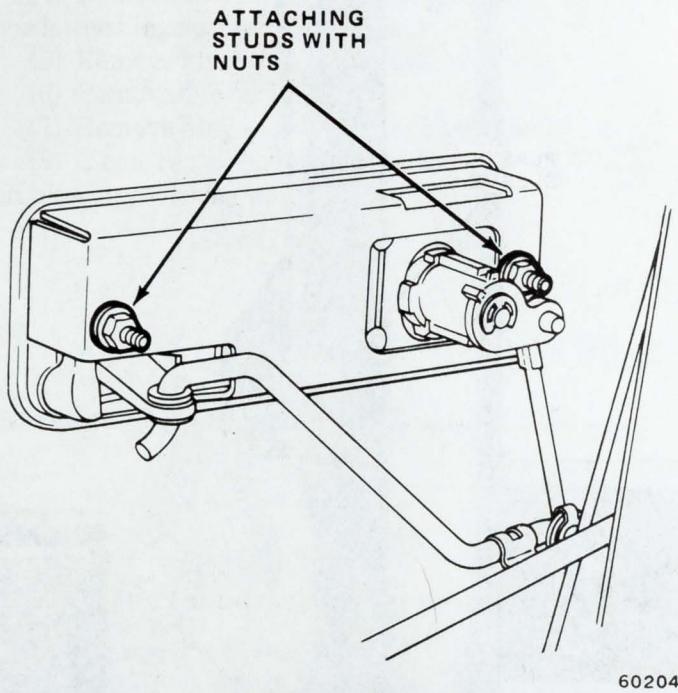


Fig. 3J-52 Outside Door Handle Attachment—Matador

- (5) Lower glass and remove handle outside nut, and raise glass to remove inboard nut. Remove handle.
- (6) Attach seal and handle to door with nuts and tighten to 38 inch-pounds (4.5 Nm) torque.
- (7) Install lock rod.
- (8) Install water dam paper.
- (9) Install door trim panel.

Key Lock

The door key lock cylinder is encased in the cylinder housing. A spring-loaded shutter covers the key hole.

The lock is held against the inside surface of the door outer panel by a retaining clip.

The door lock cylinder is housed in the outside door handle assembly and retained with a spring clip.

Door Lock Cylinder

Coded tumblers (numbered one through five) and coil springs are available through the Parts Distribution Centers. The unmarked tumblers are number one.

The lock cylinder (less tumblers), housing, dust cover, and cap are available as a kit. Whenever a lock cylinder replacement is required, the service cylinder can be coded to match the existing key as follows (fig. 3J-53).

- (1) Obtain key code number and corresponding five-digit bitting number.
- (2) Remove cylinder lock assembly from door.
- (3) Code new cylinder to the existing key bitting number (example: Code 42135).

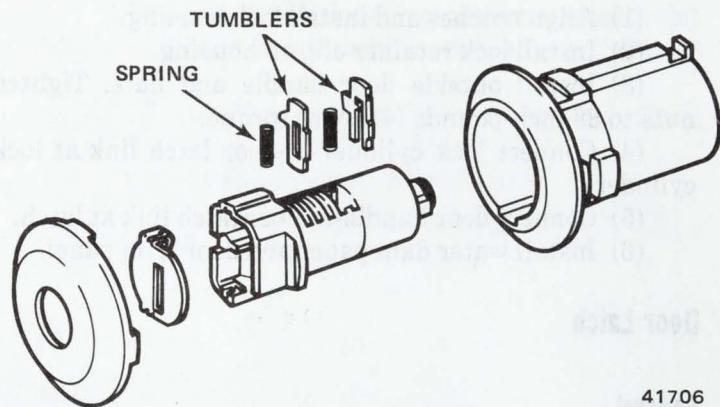


Fig. 3J-53 Lock Cylinder

(a) Start at key end of cylinder, insert coil spring and number four tumbler into first slot and snap tumbler into place.

(b) Insert number two tumbler into second slot and unmarked tumbler (which is number one) into third slot.

(c) Insert number three tumbler into fourth slot and number five tumbler into fifth slot.

NOTE: Tumblers snap into position with slight pressure.

(4) Insert key into cylinder with all tumblers flush with cylinder.

(5) Install cylinder into housing and install spring dust cover and crimp dust cap onto lock housing.

Lock Operation

To lock the front door without a key, push the lock lever to the lock position.

Lubrication

To prevent lock freezeup, or sticky or difficult key lock operation, use a powdered graphite in the key hole. Use alcohol or benzene to clean lock assembly. Dry cylinder with compressed air and lubricate.

Removal

- (1) Remove front door trim panel and water dam paper.
- (2) Disconnect door handle-to-door latch link at latch.
- (3) Disconnect lock cylinder-to-door latch link at lock cylinder.
- (4) Remove nuts attaching outside door handle and remove door handle.
- (5) Pry lock retainer out of grooves and remove lock housing.

Installation

- (1) Align notches and install lock housing.
- (2) Install lock retainer clip on housing.
- (3) Install outside door handle and nuts. Tighten nuts to 38 inch-pounds (4.3 Nm) torque.
- (4) Connect lock cylinder-to-door latch link at lock cylinder.
- (5) Connect door handle-to-door latch link at latch.
- (6) Install water dam paper and door trim panel.

Door Latch**Removal**

- (1) Remove door trim panel and water dam paper.
- (2) Remove remote link from remote control by prying up link (fig. 3J-51).
- (3) Remove remote control link.
- (4) Pivot remote control link to permit slot in remote control link to disengage from T-stud on door latch.
- (5) Remove links and rod from latch.
- (6) Remove latch-to-door attaching screws and remove latch (fig. 3J-46).

Installation

- (1) Position latch in door and install attaching screws. Tighten latch attaching screws to 45 inch-pounds (5.1 Nm) torque.
- (2) Install links and rod on latch.
- (3) Install remote control link (tilt door lock lever and insert key slot of remote link) onto T-stud of door lock lever (fig. 3J-46).
- (4) Insert control link in remote control and press firmly into retainer.
- (5) Check operation.
- (6) Install water dam paper and trim panel.

Lubrication

Remove the door latch upper attaching screw and apply a few drops of engine oil. Apply several drops of oil to the latch opening. Open and close the door several times to distribute the oil.

If the latch has been removed, wash it in a cleaning solvent. Dry with compressed air and apply AMC Lubriplate or equivalent.

Lock Striker

The striker provides a secure retention point for the latch and prevents up and down movement of the door. It consists of a threaded, tempered-steel pin with a polyurethane sleeve for durable and cushioned operation. Use Torx Bit Tool J-25359-02 for removal, installation or adjustment.

Adjustment

- (1) Determine proper striker alignment (fig. 3J-54).

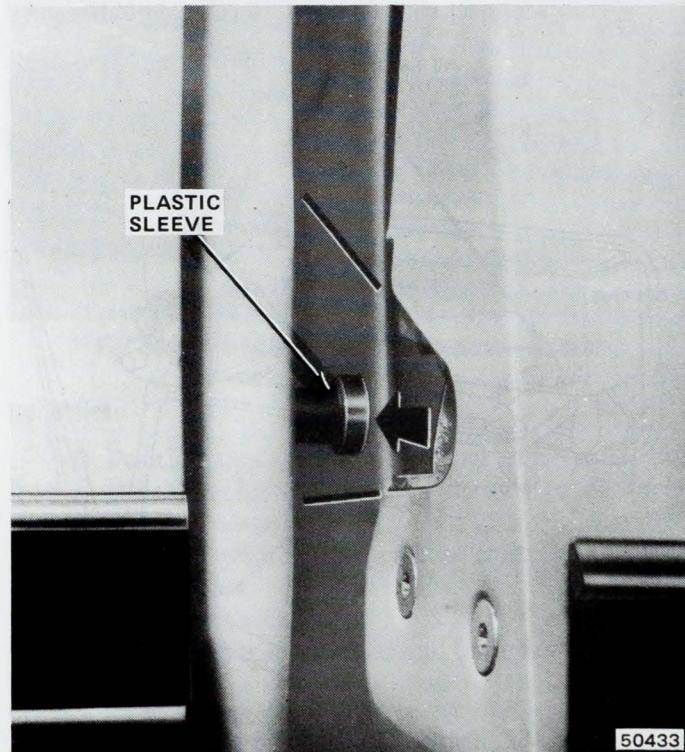


Fig. 3J-54 Lock Striker Alignment

NOTE: Lock striker should enter latch smoothly with no up or down movement of the door. Door should open smoothly without dragging on striker.

- (2) Loosen and move striker to desired position.
- (3) Tighten striker to 52 foot-pounds (70.5 Nm) torque.
- (4) Apply lubricant to striker pin.

CAUTION: Doublecheck for proper functioning. It is possible to set the striker in so far that the door is closed tight with only the safety catch engaged.

HINGE SYSTEM

A nylon bushing is inserted into the pin hole on the body half of the hinge. The hinge pin is serrated at the top to prevent movement of the pin.

A spring-loaded cam lever on the front door lower hinge provides a two-position door check. The lever is pinned to the door section of the hinge and slides against a roller sleeve pinned to the body section of the hinge. The first detent on the door check lever checks the door in the mid-open position. The second detent checks the door in the fully open position.

The front door upper and lower hinges incorporate a doorstop to limit door opening.

Replacement

- (1) Position door in holding fixture.
- (2) Remove instrument cluster bezel and instrument cluster (refer to Chapter 3C) to gain access to left front door upper hinge attaching screws.
- (3) Remove left AC duct (if equipped).
- (4) Remove cowl trim panel to gain access to front door lower hinge attaching screws.
- (5) Remove hinge-to-post attaching screws.
- (6) Remove door from car.
- (7) Remove hinge-to-door attaching screws.
- (8) Clean replacement hinges in a suitable solvent and blow dry with compressed air.

- (9) Color coat hinges to match body.
- (10) Lubricate hinges with AMC Lubriplate or equivalent.
- (11) Position hinges on door and install attaching screws.
- (12) Position door in body opening and install hinge-to-post attaching screws.
- (13) Remove door holding fixture.
- (14) Perform necessary door adjustments (refer to Door Adjustments).
- (15) Install cowl trim panel if removed.
- (16) Install left AC duct (if removed), instrument cluster, and bezel.

Door Adjustments

- (1) Remove lock striker.
- (2) Determine adjustment required.
 - (a) If in, out, up or down adjustment is required, loosen hinge attaching screws at door and position door.
 - (b) If tilt or additional up or down adjustment is required, loosen hinge attaching screws from inside of car.
- (3) Position door and tighten hinge attaching screws to 20 foot-pounds (27.1 Nm) torque.
- (4) Install removed panels/components.
- (5) Install and adjust lock striker, tighten to 52 foot-pounds (70.5 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. **Service In-Use Recheck Torques** should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque	
Door Lock Striker	71	61-81	52 ft-lbs.	45-60 ft-lbs.
Nut - Door Handle to Door Panel	4	3-7	38	25-60
Screw - Door Hinge to Body	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Locking Control to Door Inner Panel	5	4-6	40	35-55
Screw - Handle Door Latch Remote Assembly	5	4-6	40	35-55
Screw - Locking Latch to Door Inner Panel	5	5-7	45	40-60
Screw - Window Stop Bracket to Door Panel	10	9-11	90	80-100
Screw and Washer Assembly - Remote to Door Inner Panel	5	4-7	45	35-65

MATADOR SEDAN AND STATION WAGON FRONT DOOR

Door Lock Striker	71	61-81	52 ft-lbs.	45-60 ft-lbs.
Nut - Door Handle to Door Panel	4	3-7	38	25-60
Screw - Door Hinge to Body	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Locking Control to Door Inner Panel	5	4-6	40	35-55
Screw - Handle Door Latch Remote Assembly	5	4-6	40	35-55
Screw - Locking Latch to Door Inner Panel	5	5-7	45	40-60
Screw - Window Stop Bracket to Door Panel	10	9-11	90	80-100
Screw and Washer Assembly - Remote to Door Inner Panel	5	4-7	45	35-65

MATADOR SEDAN AND STATION WAGON FRONT DOOR GLASS

Nut - Hex Washer Assembly Door Window Frame to Door Inner	10	9-11	90	80-100
Screw - C/V Assembly to Door Frame	3	3-6	30	25-50
Screw - C/V Assembly to Door Inner	10	9-11	90	80-100
Screw - Division Bar Bracket Lower to Division Bar	10	9-11	90	80-100
Screw - Division Bar Bracket Lower to Door Inner	10	9-11	90	80-100
Screw - Door Window Frame to Door	17	11-23	150	100-200
Screw - Door Window Regulator Assembly	10	9-11	90	80-100
Screw - Door Window Regulator Handle	5	3-6	40	30-50
Screw - Window Regulator Guide Channel	10	9-11	90	80-100

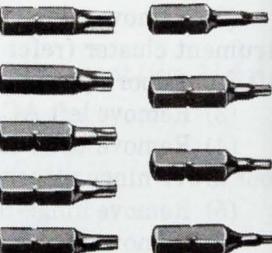
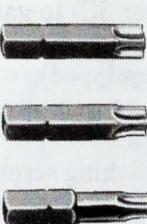
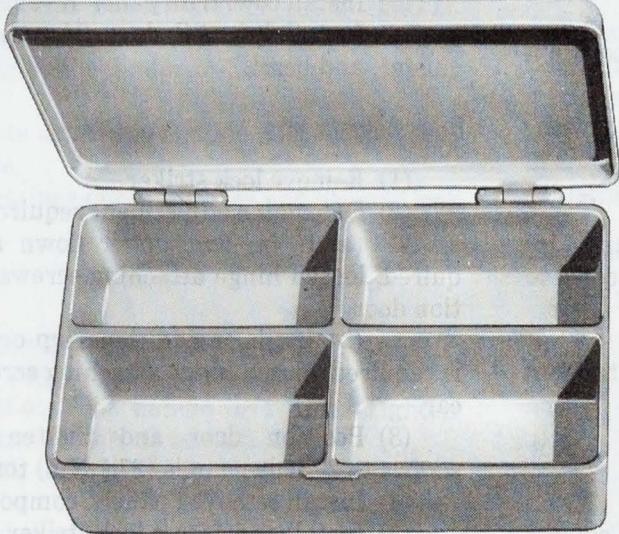
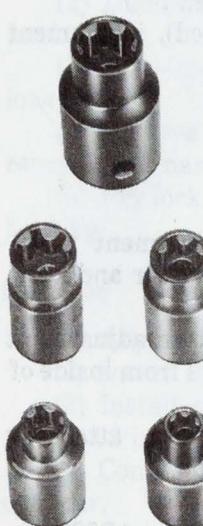
All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

Special Tools

**J-2631-01
TRIM PAD DEPRESSOR**



**J-23495
DOOR HINGE
WRENCH**



**J-25359-02
TORX BIT AND SOCKET SET**

70455B

CONCORD REAR DOORS

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DOOR TRIM

Window Regulator Handles

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen-head screw. To remove the handle, remove the screw, pull the handle straight off the shaft and remove the nylon washer.

Install the nylon washer and handle with the knob forward, the handle horizontal and the glass all the way up. Install the attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

Armrest Replacement

- (1) Remove attaching screws and overlay strip, if equipped.
- (2) Remove attaching screws and armrest.
- (3) To install, position armrest on door and install attaching screws.
- (4) Install overlay strip and attaching screws, if equipped.

Trim Panels

The trim panels are of hardboard composition and plastic covered with material to match each interior. Decorative mouldings and inserts, utilized with the various models, are attached to this panel. The trim panel is

attached to the door inner panel by metal clips and screws.

Removal

- (1) Remove window regulator handle and nylon washer.
- (2) Remove attaching screws and armrest overlay strip, if equipped.
- (3) Remove attaching screws and armrest.
- (4) Remove remote control handle bezel attaching screws.
- (5) Remove bezel by sliding toward front of car and off handle.
- (6) Remove attaching screws along bottom of trim panel.
- (7) Pry out panel-to-door clips along sides and top with Trim Pad Depressor J-2631-01.
- (8) Remove panel.

Installation

- (1) Install trim panel on door. Be sure clips are aligned with holes in door inner panel.
- (2) Install attaching screws along bottom of trim panel.
- (3) Slide bezel over handle. Be sure to engage locator tabs over trim panel.
- (4) Install bezel attaching screws.
- (5) Position armrest and install attaching screws.
- (6) Install armrest overlay strip and attaching screws.
- (7) Install nylon washer and correctly position window regulator handle. Install attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

EXTERIOR MOULDINGS

Metal Mouldings

All metal mouldings are attached with plastic clips; however, some mouldings are also fastened with a T-bolt and acorn nut at each end.

Replacement

- (1) Remove acorn nut from T-bolt, if equipped.
- (2) Pry moulding off clip using fiber or wooden stick.
- (3) Remove door plastic moulding clips.
- (4) Install replacement door plastic clips.
- (5) Press moulding onto clips.
- (6) Install acorn nuts on T-bolts, if equipped.

Vinyl Mouldings

Replacement

- (1) Use 3M Release Agent, or equivalent to soften adhesive bond.

(a) Using snorkel tube, spray between moulding and door panel.

(b) Allow 2 to 3 minutes for penetration and softening of adhesive.

(2) Peel moulding from panel.

(3) Attach end of string to panel where moulding is to be applied.

(4) Run string at desired level along panel and attach at end with tape.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine if a solvent will damage the paint, test solvent on a hidden area of the car.

(5) Clean adhesive residue and wax from surface with cloth dampened with 3M General Purpose Adhesive Cleaner, isopropyl alcohol, or equivalent.

NOTE: Surface must be clean and dry for moulding to adhere.

(6) Heat metal to minimum 68°F with heat gun J-25070 or heat lamp.

CAUTION: Do not install vinyl protective mouldings on fresh paint that has not been properly cured.

(7) Position moulding with backing paper on car and cut to desired length.

(8) Peel backing paper and press moulding to body of car, parallel with string.

(9) Press moulding to body with roller or heavy hand pressure.

(10) Remove string.

(11) Check door opening; if necessary, trim moulding with razor blade.

(12) If moulding comes loose, apply 3M Plastic and Emblem Adhesive, or equivalent to back surface of moulding and press firmly to body. Pull bond apart and allow to remain open 10 to 15 seconds. Press moulding firmly back on door panel and hold in position for 10 seconds.

SEALING SYSTEM

The rear door sealing system consists of water dam paper and various weatherstrips which seal the door and door opening from water and wind leaks. Refer to Chapter 3A for water and wind leak diagnosis.

Window Belt Weatherstrips

Removal

A flocked black-rubber weatherstrip is used on the door belt line. The outer and inner weatherstrips are attached by barbed spring clips to the door panels.

(1) Pull weatherstrip from panel at retaining clips.

(2) Insert screwdriver into retaining slots and slightly distort slots (fig. 3J-55).

(3) Lift and remove weatherstrip.

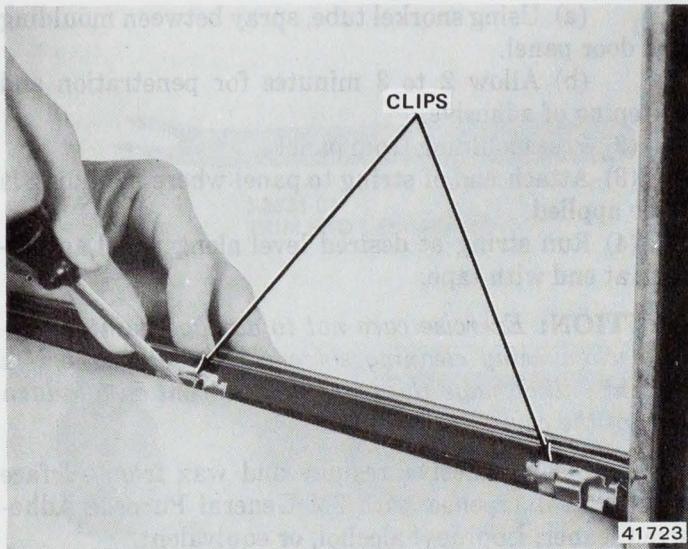


Fig. 3J-55 Clip Removal

Installation

- (1) Straighten each weatherstrip clip retaining slot.
- (2) Insert center section of each clip into each retainer slot.
- (3) Install weatherstrip and retaining clips.

Water Dam Paper

Waterproof water dam paper is attached to the door inner panel with a bead of adhesive sealer. To avoid tearing the paper during removal, use a putty knife to separate the paper and sealer from the inner panel.

Scuff Plate

The aluminum scuff plate, attached to the body sill with screws, acts as a stepping plate and provides a finished appearance to the bottom of the door opening. Oval-head screws retain the scuff plate to the body.

Door and Window Frame Rubber Sealers

The vented, dual cavity tubular rubber sealer (fig. 3J-56) has a retaining shoulder on each lower edge to fit the grooves in the door window frame.

Two types of plastic retainers are used to retain the rubber sealer to the door below the belt line. One threads into a nonstretchable tape moulded into the rubber sealer while the other has a T-stud which is hooked into the rubber sealer. Barbs on the fasteners depress when inserted in the holes and spread when fully inserted.

A metal clip and screw attach the rubber sealer at the belt line on the latch side of the door inner panel.

Replacement Rubber Sealer

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

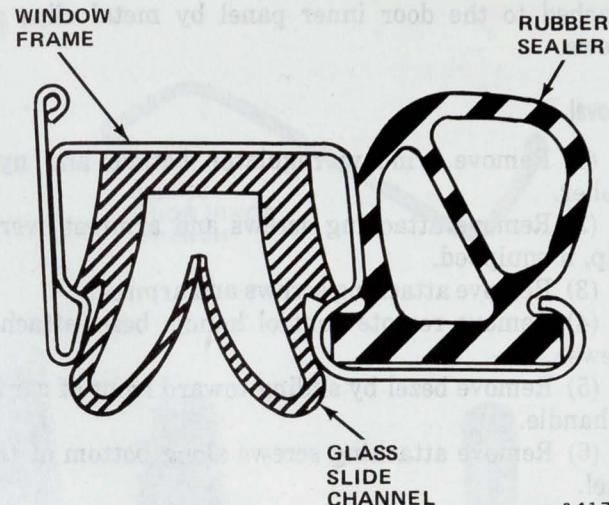


Fig. 3J-56 Window Frame and Rubber Sealer—Concord

Maintenance of Rubber Sealers

Cold weather may cause the door rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth and clean rubber sealers. Clean dirt from the body pillars and from all points where the rubber sealer contacts the body. Apply AMC Silicone Spray Lubricant, or equivalent, to rubber sealers.

CAUTION: Do not use graphite, brake fluid, or wax on rubber sealers.

Removal

- (1) Carefully remove rubber sealer (fig. 3J-57) from door using needlenose pliers to remove plastic retainers from door panel holes.
- (2) Use 3M Release Agent, or equivalent to soften adhesive bond.
 - (a) Using snorkel tube, spray between sealer and window frame.
 - (b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.
 - (c) Pull sealer carefully from frame before solvent evaporates and adhesive resets.

Installation

- (1) Remove dust and dirt from rubber sealer, door, and door frame.
- (2) Remove adhesive residue from door window frame with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent.
- (3) Install lower section of sealer to door first.
- (4) Press retainers into door panel holes.
- (5) Apply 1/8-inch bead of 3M Super Weatherstrip Adhesive, or equivalent to window frame, starting at upper rear corner and move forward along top of door.

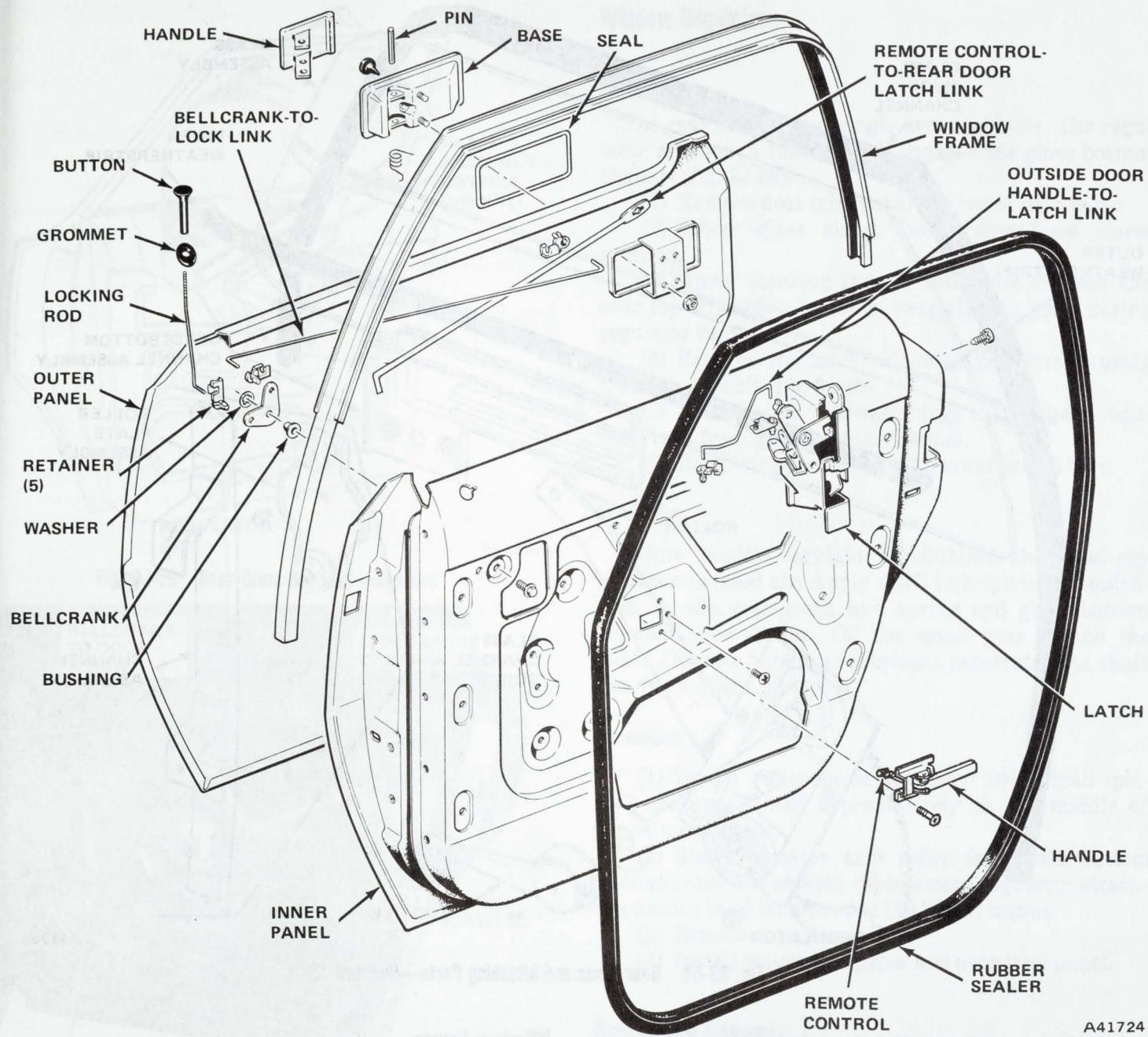


Fig. 3J-57 Door Components—Concord

A41724

(6) Place inner shoulder of sealer in channel-to-window frame.

(7) Press outer shoulder into channel with a wedge-shaped fiber stick.

WINDOW SYSTEM

Door Glass

Removal

(1) Remove door trim panel and water dam paper.

(2) Position glass so that glass channel guide roller plate assembly attaching screws are visible (fig. 3J-58) and remove screws.

(3) Push glass slightly away from roller guide plate assembly and pull tang on plate out of hole in lower window channel.

(4) Slide roller guide plate assembly down.

(5) Lower glass to stop.

(6) Tilt glass toward latch side of door and disconnect regulator arm roller from glass bottom channel.

(7) Pull glass straight up and out of door (fig. 3J-59).

Installation

(1) Tilt glass toward latch side of door and install between weatherstrips.

(2) Slide glass assembly bottom channel (with regulator turned to down-stop position) over regulator arm roller.

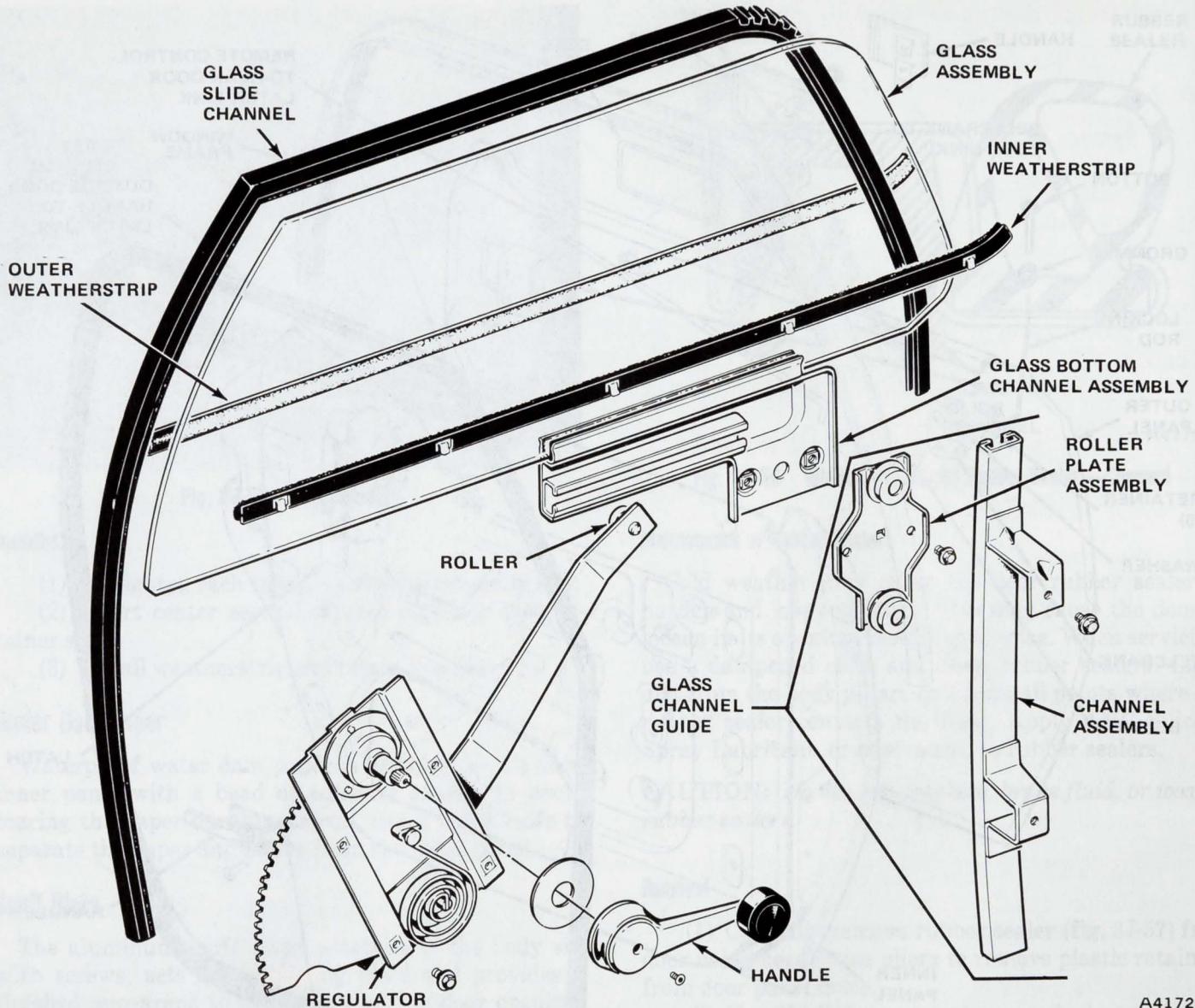


Fig. 3J-58 Door Glass and Attaching Parts—Concord

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(3) Raise regulator slightly and pivot glass so that it goes into glass slide channel.

(4) Slide roller guide plate assembly into place and install attaching screws. Tighten screws to 90 inch-pounds (10.2 Nm) torque.

(5) Install water dam paper and door trim panel.

Adjustment

Two screws control window adjustment (fig. 3J-60). The upper and lower guide channel screws permit glass movements fore and aft.

- (1) Remove door trim panel and water dam paper.
- (2) Loosen upper and lower guide channel screws and move glass to desired position. Tighten screws to 90 inch-pounds (10.2 Nm) torque.
- (3) Install water dam paper and door trim panel.

Window Frame

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Remove door rubber sealer.
- (3) Remove glass from door.
- (4) Remove door glass weatherstrip.
- (5) Break welds at frame-to-panel joint, drill out spot welds and grind away remaining portion of original welds.
- (6) Pry window channel out of window frame.
- (7) Remove frame.

Installation

- (1) Install replacement window frame and reweld.
- (2) Touch up burned areas of paint.
- (3) Install window channel in frame.

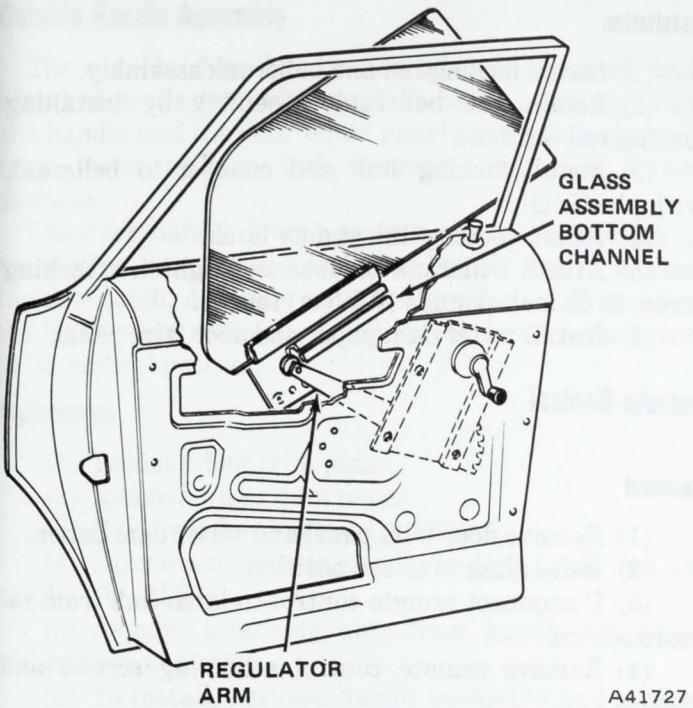


Fig. 3J-59 Door Glass Removal—Concord

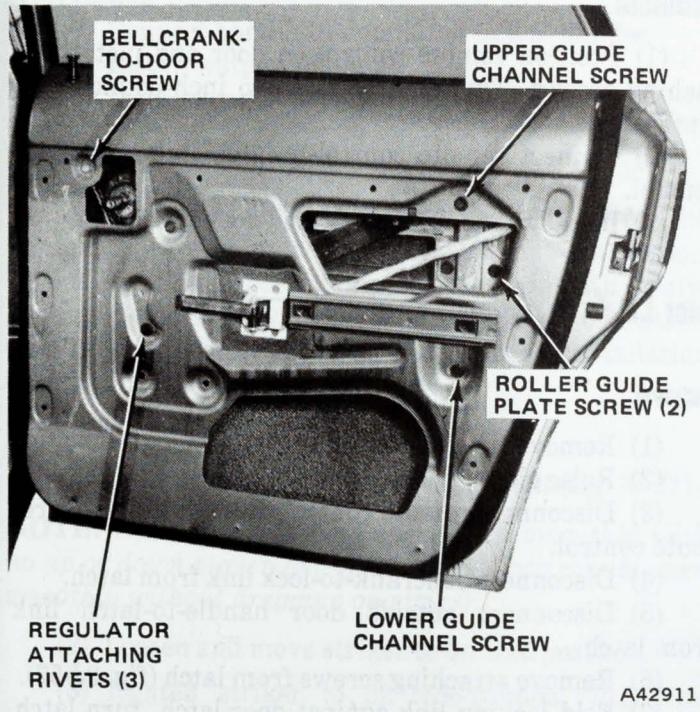


Fig. 3J-60 Door Glass Adjustment—Concord

- (4) Install door rubber sealer.
- (5) Install door glass and weatherstrip.
- (6) Install water dam paper and door trim panel.

Glass Bottom Channel Assembly

Door glass on the rear doors is set into the glass bottom channel assembly with a rubber bottom channel sealer (fig. 3J-58). The top edges of the rubber setting channel have tapered sealing lips that extend over the top edges of the glass bottom channel.

Window Regulators

Removal

The rear doors use a single arm regulator. The regulator arm has a roller which engages the glass bottom channel (fig. 3J-58).

- (1) Remove door trim panel and water dam paper.
- (2) Lower glass about four inches from closed position.
- (3) Apply masking tape to both sides of glass and over top of window frame to keep glass in place during regulator removal.
- (4) Remove regulator attaching pop rivets, using 1/4-inch drill bit (fig. 3J-60).
- (5) Slide regulator toward hinge to disengage regulator arm from glass bottom channel.
- (6) Remove regulator through lower access hole.

Lubrication

Before window regulator is installed, clean and dry with compressed air. Apply AMC Lubriplate, or equivalent, to the gear teeth and spring and glass bottom channel slide section. Oil the small gear around the shaft. Operate handle so lubricant penetrates the shaft bearing surface.

Installation

- (1) Install replacement regulator with small (pinion) gear positioned approximately in the middle of large (sector) gear.
- (2) Slide regulator arm roller into glass bottom slide channel and tighten replacement regulator attaching screws to 90 inch-pounds (10.2 Nm) torque.
- (3) Remove tape from glass.
- (4) Install water dam paper and door trim panel.

Glass Slide Channel

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Remove door glass.
- (3) Remove slide channel from rear window frame.

Installation

NOTE: Start installation of slide channel at top front corner of window frame.

- (1) Apply soapy solution to bottom 6 inches of slide channel back.
- (2) Install channel into rear window frame channel until slack is removed.
- (3) Bond rear vertical run into window frame with 3M Super Weatherstrip Adhesive, or equivalent.

(4) Install forward portion of slide channel into opening of window frame and into lower guide channel.

NOTE: Be sure slide channel is firmly seated into door frame and does not bridge at corners.

(5) Install door glass.

(6) Install water dam paper and door trim panel.

Glass Guide Channel

Removal

(1) Remove door trim panel and water dam paper.

(2) Support glass and remove roller plate attaching screws and roller plate assembly (fig. 3J-58).

NOTE: Push glass away from roller plate assembly to disengage tang at side of plate and slide roller plate assembly downward.

(3) Remove upper and lower guide channel attaching screws and remove channel assembly.

Installation

(1) Position guide channel into door and install attaching screws. Tighten screws to 90 inch-pounds (10.2 Nm) torque.

(2) Install roller plate assembly by engaging both guide rollers in guide channel (from bottom of guide channel).

(3) Slide roller plate assembly up and install attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.

(4) Remove glass support.

(5) Check glass alignment and adjust if necessary.

(6) Install water dam paper and door trim panel.

LOCK SYSTEM

Inside Locking Controls

The rear door inside locking controls are similar to the front controls except that the locking lever is controlled by the locking rod operating through a bellcrank and locking link (fig. 3J-57).

Removal

(1) Remove door trim panel and water dam paper.

(2) Raise glass to closed position.

(3) Remove attaching screw, bellcrank and locking rod button.

(4) Disconnect locking link at door latch.

(5) Remove locking assembly.

NOTE: Move the complete latch assembly toward hinge. Flex locking link slightly and remove latch assembly through upper rear access hole.

(6) Disconnect locking link from bellcrank assembly.

Installation

(1) Install locking rod and bellcrank assembly.

(2) Retain the bellcrank assembly by installing locking rod button.

(3) Install locking link and connect to bellcrank with plastic clip.

(4) Attach locking link at door latch.

(5) Attach bellcrank to door and tighten attaching screw to 65 inch-pounds (7.3 Nm) torque.

(6) Install water dam paper and door trim panel.

Remote Control

Removal

(1) Remove door trim panel and water dam paper.

(2) Raise glass to closed position.

(3) Disconnect remote control-to-latch link from remote control.

(4) Remove remote control attaching screws and control.

Installation

(1) Position remote control on door and install attaching screws. Tighten screws to 45 inch-pounds (5.1 Nm) torque.

(2) Connect remote control-to-latch link to remote control.

(3) Install water dam paper and door trim panel.

Door Latch

Removal

(1) Remove trim panel and water dam paper.

(2) Raise glass to closed position.

(3) Disconnect remote control-to-latch link from remote control.

(4) Disconnect bellcrank-to-lock link from latch.

(5) Disconnect outside door handle-to-latch link from latch.

(6) Remove attaching screws from latch (fig. 3J-57).

(7) Fold locking link against door latch, turn latch and slide between window channel and inner door panel.

(8) Remove latch through upper access hole.

Installation

(1) Assemble latch and locking link.

(2) Attach outside door handle-to-latch link to latch before installing.

(3) Install latch through upper access hole.

(4) Connect remote control-to-latch link to latch.

(5) Install latch attaching screws and tighten to 45 inch-pounds (5.1 Nm) torque.

(6) Install water dam paper and trim panel.

Outside Handle Assembly

The outside door handle assembly is recessed and attached to the door with two fasteners. A seal between the handle and the door outer panel provides protection from water leakage, lock freezeup, and paint finish damage.

The door handle lever operates the latch through a connecting link. Pulling the door handle lever releases the door latch. A rubber bumper provides a soft stop for the lever when released. A coil spring returns the lever to its normal position.

Replacement

- (1) Remove door trim panel.
- (2) Remove water dam paper.
- (3) Raise window to closed position.
- (4) Disconnect outside handle-to-door latch link at handle (fig. 3J-57).

(5) Remove attaching nuts from handle assembly and remove assembly.

(6) To install, position handle assembly and secure with attaching nuts. Tighten nuts to 40 inch-pounds (4.5 Nm) torque.

- (7) Connect handle-to-door latch link to handle.
- (8) Install water dam paper.
- (9) Install door trim panel.

Lock Striker

The striker provides a secure retention point for the latch and prevents up and down movement of the door. It consists of a threaded, tempered-steel pin with a polyurethane sleeve for durable and cushioned operation. Use Torx Bit Tool J-25359-02 for removal, installation and adjustment.

Adjustment

- (1) Determine proper striker alignment (fig. 3J-61).

NOTE: Lock striker should enter latch smoothly with no up or down movement of the door. Door should open smoothly without dragging on striker.

- (2) Loosen and move striker to desired position.
- (3) Tighten striker to 52 foot-pounds (70.5 Nm) torque.
- (4) Apply lubricant to striker pin.

CAUTION: Doublecheck for proper functioning. It is possible to set the striker in so far that the door is closed tight with only the safety catch engaged.

Hinge System

The new large rear hinge has nylon bushings. The hinge pin is serrated under the head to prevent movement of the pin.

A spring-loaded cam lever on the hinge provides a positive door check.

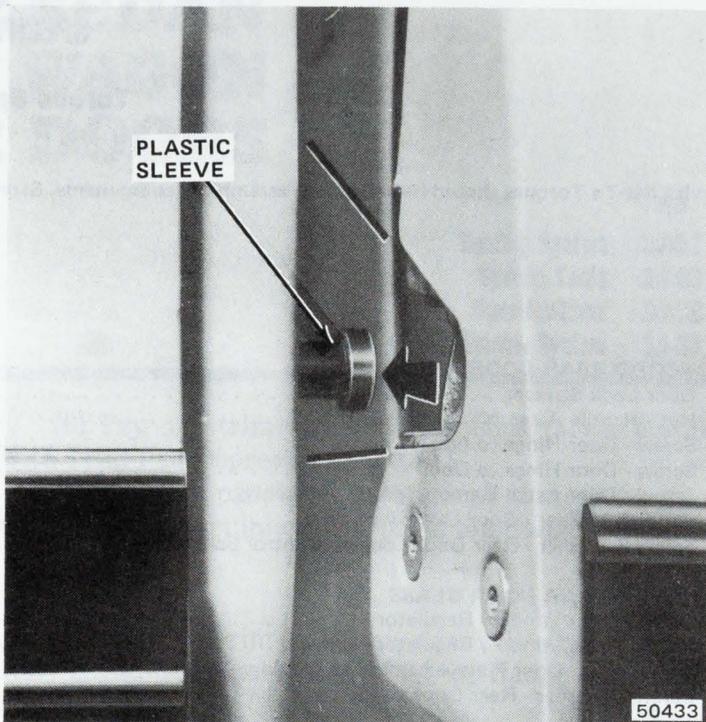


Fig. 3J-61 Lock Striker Alignment

Replacement

- (1) Position door in holding fixture.
- (2) Remove all hinge-to-door attaching screws.
- (3) Remove door from car.
- (4) Remove hinge-to-post attaching screws and remove hinge.
- (5) Clean replacement hinge in a suitable solvent and blow dry with compressed air.
- (6) Color coat hinge to match body.
- (7) Lubricate hinge with AMC Lubriplate or equivalent.
- (8) Position hinge on post and install attaching screws.
- (9) Position door in body opening and install hinge-to-door attaching screws.
- (10) Remove door holding fixture.
- (11) Perform necessary door adjustments.

Door Adjustment

- (1) Remove latch striker.
- (2) Determine adjustment required.
 - (a) If in, out, up, or down adjustment is required, loosen hinge attaching screws at door and position door.
 - (b) Tighten hinge attaching screws to 20 foot-pound torque.
 - (c) If tilt or additional up or down adjustment is required, loosen hinge attaching screws at body pillar and move door to desired position.
 - (d) Tighten hinge attaching screws to 20 foot-pounds (27.1 Nm) torque.
 - (3) Install and adjust lock striker. Tighten striker to 52 foot-pound (70.5 Nm) torque.

SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

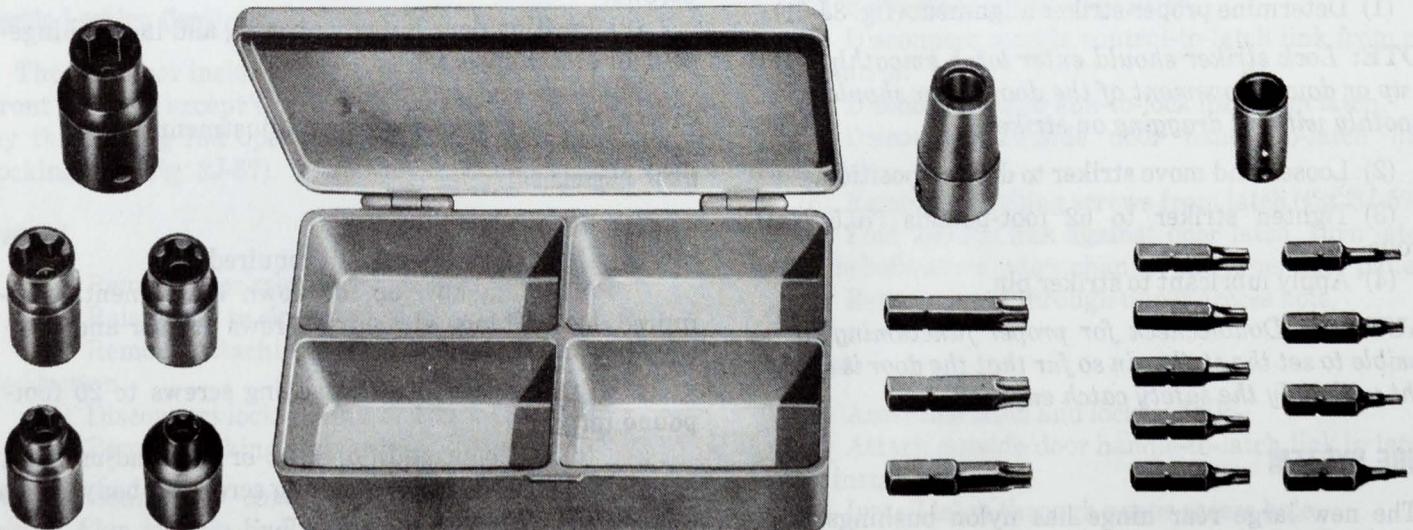
	METRIC (N·m)	USA (in.lbs)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
CONCORD REAR DOOR				
Door Lock Striker	71	61-81	52 ft-lbs.	45-60 ft-lbs.
Nut - Handle Assembly Door Outside	5	3-7	40	25-60
Screw - Door Hinge to Body	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Latch Remote Handle Assembly	5	4-7	45	35-65
Screw & Washer - Door Latch Assembly	5	5-7	45	40-60
Screw & Washer - Rear Door Locking Control Bellcrank	7	6-8	65	50-75
CONCORD REAR DOOR GLASS				
Screw - Door Window Regulator	10	9-11	90	80-100
Screw - Door Window Regulator Handle	5	3-6	40	30-50
Screw - Rear Door Plate Assembly to Window Assembly	10	9-11	90	80-100
Screw & Washer - Rear Door Guide	10	9-11	90	80-100
Canadian Option:				
Screw & Washer - Rear Door Guide	5	4-5	42	35-45

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

70367A

Special Tools

J-2631-01
TRIM PAD DEPRESSOR



J-25359-02
TORX BIT AND SOCKET SET

70455A

MATADOR SEDAN AND STATION WAGON REAR DOORS

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DOOR TRIM

Window Regulator Handles

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen-head screw. To remove the handle, remove the screw, pull the handle straight off the shaft and remove the nylon washer.

Install the nylon washer and handle with the knob forward, the handle horizontal and the glass all the way up. Install the attaching screw and tighten to 40 inch-pounds (4.5 Nm) torque.

Armrest Replacement

- (1) Remove attaching screws and overlay strip, if equipped.
- (2) Remove attaching screws and armrest.
- (3) To install, position armrest on door and install attaching screws.
- (4) Install overlay strip and attaching screws, if equipped.

Trim Panels

The trim panel is attached at the upper edge by a lip that overlaps the door inner panel top flange. Various trim options include trim panel overlays and mouldings. The overlays are clinched to the door trim panel with metal tabs. Trim panel mouldings and overlays are individually serviced. The trim panel is attached to the door inner panel by metal clips and screws.

Removal

- (1) Remove window regulator handle and nylon washer or electric window control switch.
- (2) Remove attaching screws and armrest overlay strip.
- (3) Remove attaching screws and armrest.
- (4) Remove assist handle, if equipped.
 - (a) Pry off plastic cover at ends.
 - (b) Remove attaching screws and assist handle.
- (5) Remove attaching screws along bottom and upper corners of trim panel.

(6) Pry out trim panel-to-door clips (along sides) with Trim Pad Depressor J-2631-01.

(7) Remove panel by pulling out and up to disengage panel from inner door panel top flange.

Installation

- (1) Position trim panel on door with lip of panel fully engaged on inner door panel top flange and insert clips into holes.
- (2) Install attaching screws along bottom and upper corners of panel.
- (3) Install assist handle.
 - (a) Position handle on trim panel and install attaching screws.
 - (b) Snap plastic covers into ends.
- (4) Position armrest and install attaching screws.
- (5) Install armrest overlay strip and attaching screws.
- (6) Install nylon washer, correctly position window regulator handle and install attaching screw or electric window control switch. Tighten handle attaching screw to 40 inch-pounds (4.5 Nm) torque.

EXTERIOR MOULDINGS

Metal Mouldings

All metal mouldings are attached with plastic clips; however, some mouldings are also fastened with a T-bolt and acorn nut at each end.

Replacement

- (1) Remove acorn nut from T-bolt, if equipped.
- (2) Pry moulding off clip using fiber or wooden stick.
- (3) Remove door plastic moulding clips.
- (4) Install replacement door plastic clips.
- (5) Press moulding onto clips.
- (6) Install acorn nuts on T-bolts, if equipped.

Vinyl Mouldings

Replacement

- (1) Use 3M Release Agent, or equivalent to soften adhesive bond.

- (a) Using snorkel tube, spray between moulding and door panel.
- (b) Allow 2 to 3 minutes for penetration and softening of adhesive.
- (2) Peel moulding from panel.
- (3) Attach end of string to panel where moulding is to be applied.
- (4) Run string at desired level along panel and attach at end with tape.

CAUTION: Exercise care not to damage painted surface when using cleaning solvents. To determine if a solvent will damage the paint, test solvent on a hidden area of the car.

(5) Clean adhesive residue and wax from surface with cloth dampened with 3M General Purpose Adhesive Cleaner, isopropyl alcohol, or equivalent.

NOTE: Surface must be clean and dry for moulding to adhere.

(6) Heat metal to minimum 68°F with heat gun J-25070 or heat lamp.

CAUTION: Do not install vinyl protective mouldings on fresh paint that has not been properly cured.

(7) Position moulding with backing paper on car and cut to desired length.

(8) Peel backing paper and press moulding to body of car, parallel with string.

(9) Press moulding to body with roller or heavy hand pressure.

(10) Remove string.

(11) Check door opening; if necessary, trim moulding with razor blade.

(12) If moulding comes loose, apply 3M Plastic and Emblem Adhesive, or equivalent to back surface of moulding and press firmly to body. Pull bond apart and allow to remain open 10 to 15 seconds. Press moulding firmly back on door panel and hold in position for 10 seconds.

SEALING SYSTEM

The rear door sealing system consists of water dam paper and various weatherstrips which seal the door and door opening from water and wind leaks. Refer to Chapter 3A for water and wind leak diagnosis.

Window Belt Weatherstrips

Removal

A hollow-core, flocked, black-rubber weatherstrip is used on the door outer belt line. The inner weatherstrip is a flocked J-strip stapled to the trim panel. The outer weatherstrip is fastened into slotted holes with barbed spring tension clips.

- (1) Pull weatherstrip from door flange at retaining clips.
- (2) Insert screwdriver into retaining slots and slightly distort slots (fig. 3J-62).
- (3) Lift and remove weatherstrip.

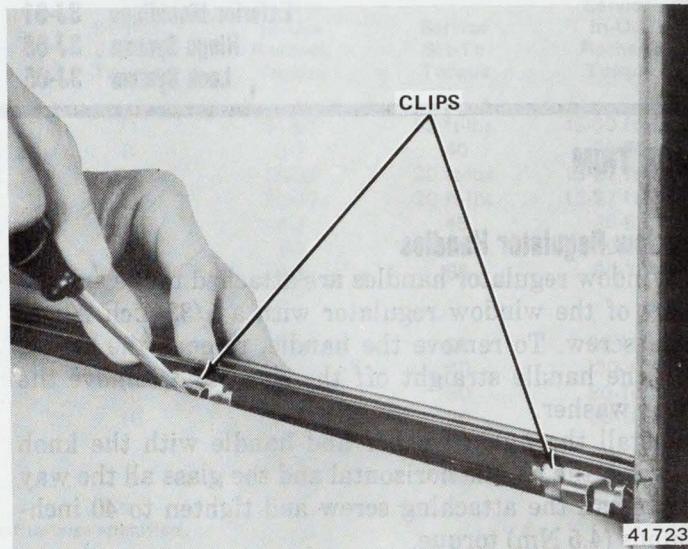


Fig. 3J-62 Clip Removal

NOTE: To remove trim panel weatherstrip, remove door trim panel and staples securing weatherstrip to panel.

Installation

- (1) Straighten each weatherstrip clip retaining slot.
- (2) Insert center section of each clip into each door flange slot.
- (3) Install weatherstrip on door flange at retaining clips.

NOTE: To replace the door trim panel weatherstrip, drill three 1/8-inch diameter holes through the weatherstrip and trim panel flange and fasten the weatherstrip with 1/8-inch diameter pop rivets.

Water Dam Paper

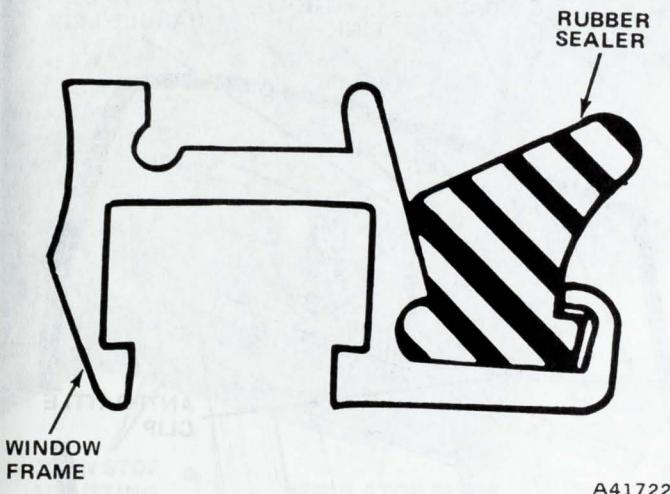
Waterproof water dam paper is attached to the door inner panel with a bead of adhesive sealer. To avoid tearing the paper during removal, use a putty knife to separate the paper and sealer from the inner panel.

Scuff Plate

The aluminum scuff plate, attached to the body sill with screws, acts as a stepping plate and provides a finished appearance to the bottom of the door opening. Oval-head screws retain the scuff plate to the body.

Door and Window Frame Rubber Sealers

The door rubber sealer (fig. 3J-63) consists of a sponge rubber core with a smooth, dense rubber skin on the outside.



**Fig. 3J-63 Window Frame and Rubber Sealer—
Matador Sedan and Station Wagon**

Two types of plastic retainers are used to retain the rubber sealer to the door below the belt line. One threads into a nonstretchable tape moulded into the rubber sealer while the other has a T-stud which is hooked into the rubber sealer. Barbs on the fasteners depress when inserted in the holes and spread when fully inserted.

A double-pronged fastening plate and screw secure the rubber sealer at the belt line on the hinge and latch side of the door inner panel.

Replacement Rubber Sealer

Replacement rubber sealers are coated with powder to prevent stickiness in storage. Remove all powder with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent, before installation.

Maintenance of Rubber Sealers

Cold weather may cause the door rubber sealer to harden and lose resiliency. This may cause the door to loosen in its opening, resulting in noise. When servicing, use a dampened cloth and clean rubber sealers. Clean dirt from the body pillars and from all points where the rubber sealer contacts the body. Apply AMC Silicone Spray Lubricant, or equivalent, to rubber sealers.

CAUTION: Do not use graphite, brake fluid, or wax on rubber sealers.

Removal

(1) Carefully remove rubber sealer (fig. 3J-64) from door using needlenose pliers to remove plastic retainers from door panel holes.

(2) Use 3M Release Agent, or equivalent to soften adhesive bond.

(a) Using snorkel tube, spray between sealer and window frame.

(b) Allow 2 to 3 minutes for penetration and softening of adhesive bond.

(3) Pull sealer carefully from frame before solvent evaporates and adhesive resets.

Installation

(1) Remove dust and dirt from rubber sealer, door, and door frame.

(2) Remove adhesive residue from door window frame with a cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent.

(3) Install lower section of sealer to door first.

(4) Press retainers into door panel holes.

(5) Apply 1/8-inch bead of 3M Super Weatherstrip Adhesive, or equivalent to window frame, starting at upper rear corner and move forward along top of door.

(6) Place inner shoulder of sealer in channel-to-window frame.

(7) Press outer shoulder into channel with a wedge-shaped fiber stick.

WINDOW SYSTEM

Door Glass

Removal

(1) Remove door trim panel and water dam paper (only if glass has been broken).

(2) Remove rubber sealer from frame and remove frame (fig. 3J-64).

(3) Raise glass fully with regulator and slide glass toward hinge side to disconnect rear regulator arm.

(4) Raise and tilt rear of glass toward rear to disconnect front arm.

Installation

(1) Connect front arm with rear of glass raised.

(2) Slide glass toward hinge side to connect rear regulator arm.

(3) Install frame and rubber sealer.

(4) Install water dam paper and door trim panel, if removed.

Adjustment

The only adjustments to the glass are tilt adjustments which square the glass in the window frame.

(1) Remove door trim panel and water dam paper.

(2) Loosen regulator slide channel screws (fig. 3J-65).

(3) Move channel screws up for forward tilt adjustment of glass and down for rearward tilt.

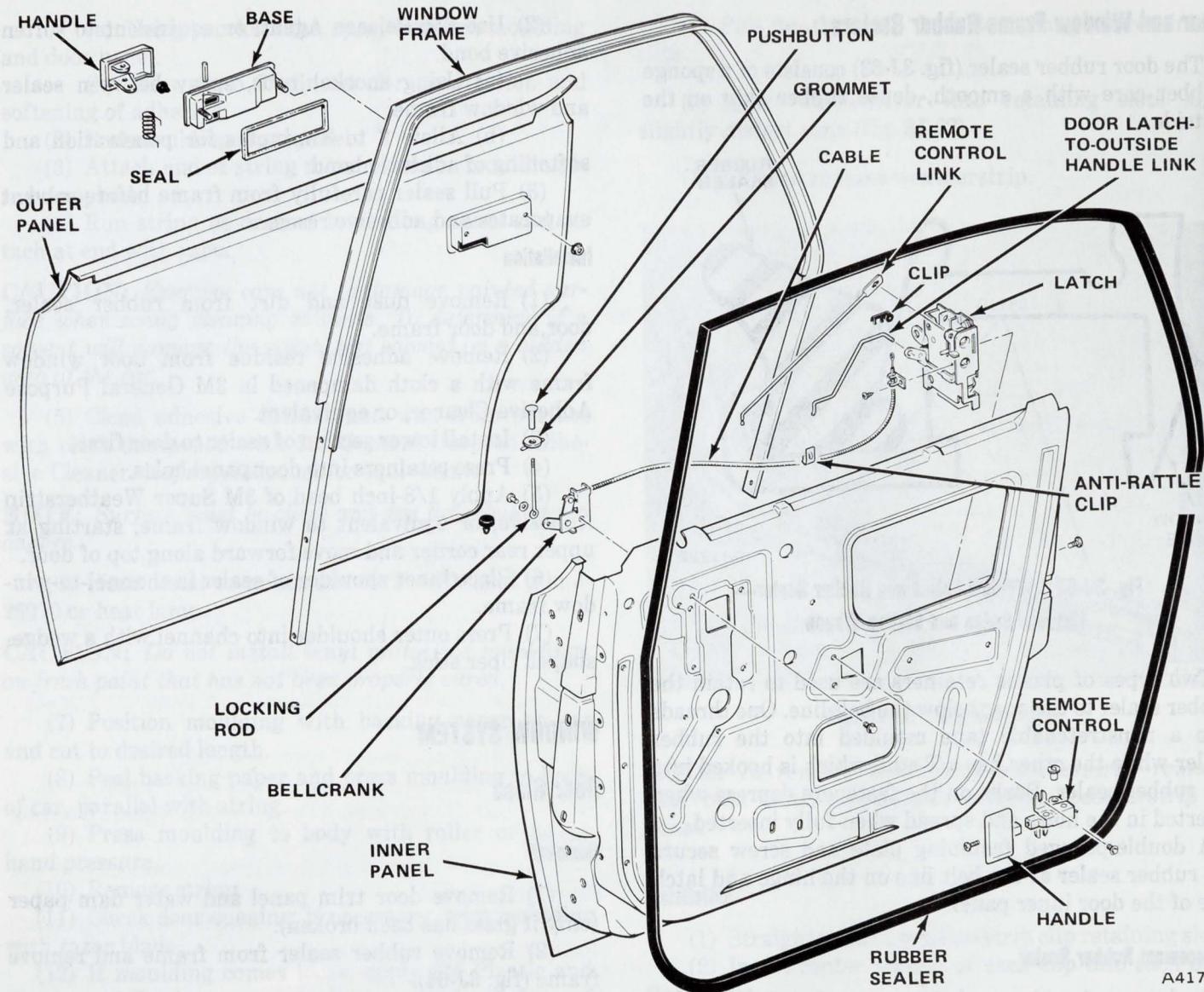


Fig. 3J-64 Door Components—Matador Sedan and Station Wagon

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(4) Adjust regulator slide channel and tighten screws to 90 inch-pounds (10.2 Nm) torque.

(5) Install water dam paper and door trim panel.

Window Frame

Removal

(1) Remove rubber sealer from frame only.

(2) Lower window fully.

(3) Remove attaching screws at hinge side and one on latch side and one lower adjusting screw.

(4) Lift frame in same arc as curvature of glass and remove.

Installation

(1) Insert rear end of frame in latch side first.

(2) Insert front end of frame into hinge side of door, aligning channel with glass.

(3) Install both ends of frame at the same time into door approximately 15 inches.

(4) Push remainder of frame into place.

(5) Install attaching screws loosely and adjust door window frame, if necessary.

(6) Tighten attaching screws to 150 inch-pounds (17 Nm) torque.

(7) Install rubber sealer on frame.

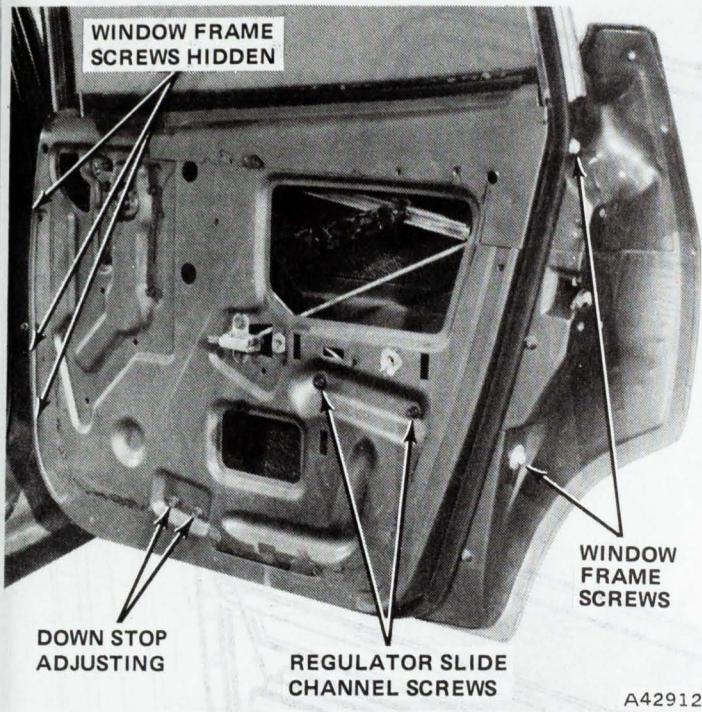
Glass Bottom Channel Assembly

Door glass on the rear doors is set into the glass bottom channel assembly with a rubber bottom channel sealer (fig. 3J-66). The top edges of the rubber setting channel have tapered sealing lips that extend over the top edges of the glass bottom channel.

Window Regulators

Removal

The rear doors are equipped with dual-arm regulators.



**Fig. 3J-65 Door Glass Adjustment—
Matador Sedan and Station Wagon**

- (1) Remove trim panel and water dam paper.
- (2) Insert a drift through an upper inner panel hole or apply masking tape to both sides of glass to prevent glass from dropping after regulator removal (fig. 3J-67).
- (3) Remove regulator arm slide channel-to-door inner panel attaching screws.
- (4) Drill out regulator attaching pop rivets, using 1/4-inch drill bit.
- (5) Slide regulator arm rollers to rear of door (latch side) to disengage rollers from glass bottom channel.
- (6) Remove remote control rod.
- (7) Remove regulator from door through large access hole.

Lubrication

Before window regulator is installed, clean and dry with compressed air. Apply AMC Lubriplate, or equivalent, to the gear teeth and spring and glass bottom channel slide section. Oil the small gear around the shaft. Operate handle so lubricant penetrates the shaft bearing surface.

Installation

- (1) Insert replacement regulator into door through large access hole.
- (2) Slide regulator arm rollers on glass bottom channel.
- (3) Install and tighten replacement regulator attaching screws to 90 inch-pounds (10.2 Nm) torque.
- (4) Install regulator arm slide channel-to-door inner panel attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque.

- (5) Install remote control rod.
- (6) Check glass operation.
- (7) Install water dam paper and trim panel.

Glass Slide Channel

Removal

- (1) Remove frame-to-door attaching screws.
- (2) Remove frame from door.
- (3) Remove slide channel from frame.

Installation

- (1) Press slide channel into frame to engage ridge and shoulders.
- (2) Bond rear vertical run into window frame with 3M Super Weatherstrip Adhesive or equivalent.
- (3) Install frame into door.
- (4) Install frame-to-door attaching screws.
- (5) Adjust door window frame, if necessary.
- (6) Tighten screws to 150 inch-pounds (17 Nm) torque.

LOCK SYSTEM

Inside Locking Controls

The locking control is connected to the door latch by the bellcrank cable (fig. 3J-64). The bellcrank cable is attached to the door latch with a clamp and screw. The cable is held to the door inner panel with an antirattle clip. The locking pushbutton bellcrank is attached to the door inner panel.

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Remove attaching screw and locking bellcrank from door inner panel.
- (3) Disconnect cable antirattle clip from inner door panel.
- (4) Remove locking cable, and bellcrank from door.
- (5) Remove cable from door latch by removing screw and cable clamp.

NOTE: Clean and lubricate all parts prior to assembly.

Installation

- (1) Position bellcrank cable in door.
- (2) Attach bellcrank cable to door latch and install attaching screw. Tighten screw to 25 inch-pounds (3 Nm) torque.
- (3) Install door locking bellcrank and attaching screw. Tighten screw to 45 inch-pounds (5.1 Nm) torque.
- (4) Insert cable antirattle clip on inner door panel.
- (5) Install water dam paper and door trim panel.

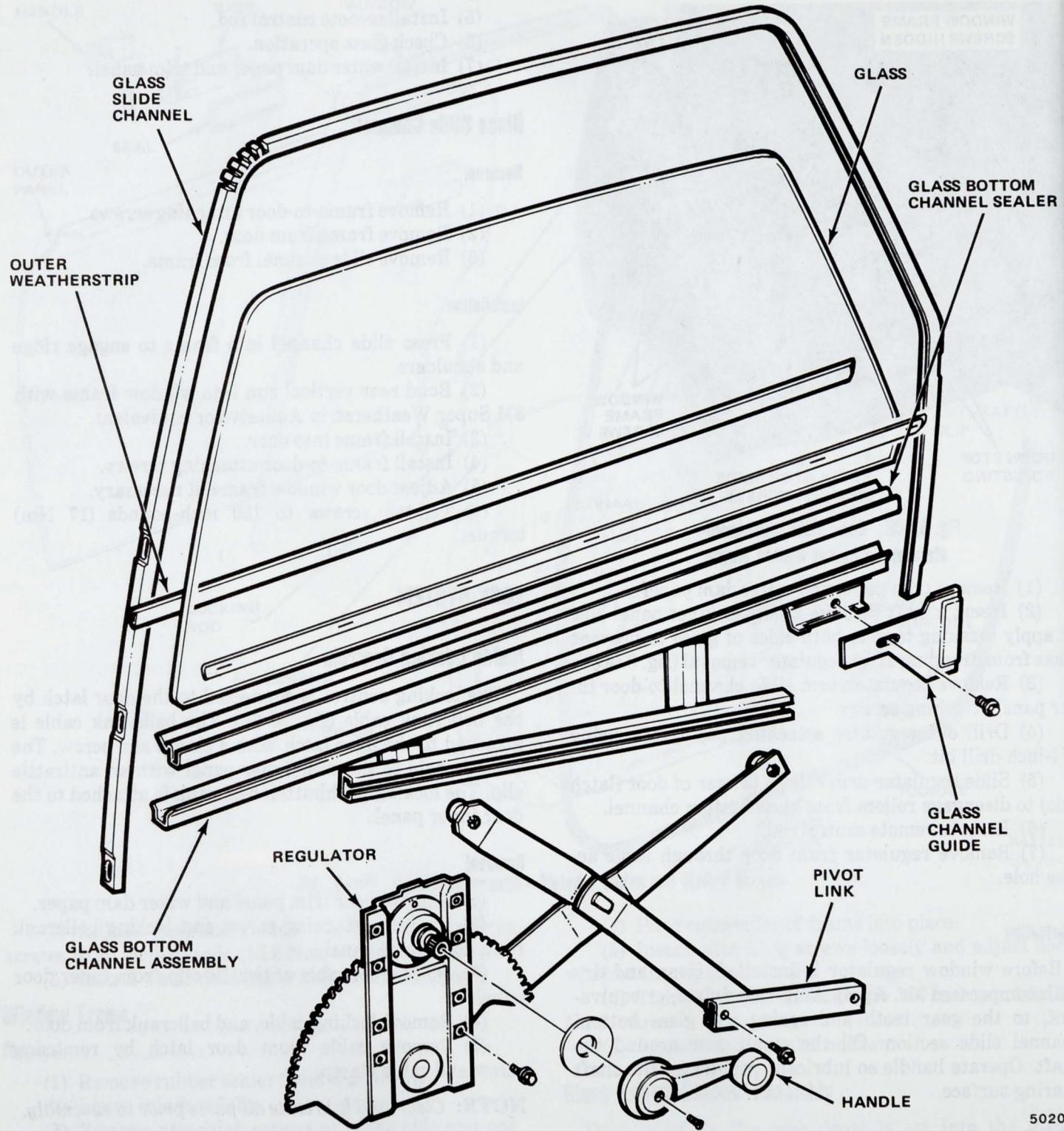


Fig. 3J-66 Door Glass and Attaching Parts—Matador Sedan and Station Wagon

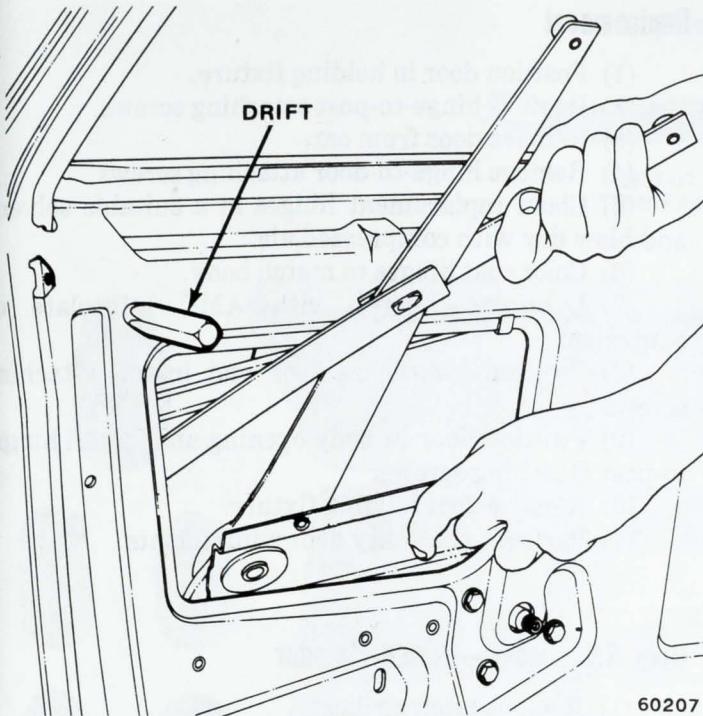
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Remote Control**Removal**

- (1) Remove door trim panel and water dam paper.
- (2) Pry up and remove remote control link from remote control.

- (3) Remove attaching screws and door latch remote control assembly.

NOTE: The remote control link is retained to the door latch by a T-stud on the door latch lever and a keyhole slot on the remote control link end.



**Fig. 3J-67 Door Window Regulator Removal—
Matador Sedan and Station Wagon**

Installation

- (1) Install door latch remote control and attaching screws. Tighten screws to 45 inch-pounds (5.1 Nm) torque.
- (2) Connect remote control link to remote control.
- (3) Check remote control. If door lock does not release, adjust by moving control away from latch.
- (4) Install water dam paper and door trim panel.

Door Latch

Removal

- (1) Remove door trim panel and water dam paper.
- (2) Disconnect remote control link from remote control.

NOTE: The remote control link is retained to the door latch by a T-stud on the door latch lever and a keyhole slot on the link end (fig. 3J-64).

- (3) Disconnect link from door latch to outside door handle.
- (4) Remove attaching screw and disconnect bellcrank cable from door latch.
- (5) Remove door latch attaching screws and remove latch.

NOTE: Clean and lubricate all parts prior to assembly.

Installation

- (1) Position latch assembly to door inner panel.
- (2) Install door latch attaching screws and tighten to 45 inch-pounds (5.1 Nm) torque.

(3) Attach bellcrank cable to door latch and install attaching screw. Tighten screw to 25 inch-pounds (3 Nm) torque.

- (4) Connect link from door latch to outside door handle.
- (5) Connect link from remote control to latch.
- (6) Install water dam paper and door trim panel.

Outside Handle Assembly

The outside door handle assembly is recessed and attached to the door with two fasteners. A seal between the handle and the door outer panel provides protection from water leakage, lock freezeup, and paint finish damage.

The door handle lever operates the latch through a connecting link. Pulling the door handle lever releases the door latch. A rubber bumper provides a soft stop for the lever when released. A coil spring returns the lever to its normal position.

Replacement

- (1) Remove door trim panel.
- (2) Remove water dam paper.
- (3) Raise window to closed position.
- (4) Remove lock rod from retainer at latch and handle (fig. 3J-64).
- (5) Lower glass, remove handle outside nut, and raise glass to remove inboard nut.
- (6) Remove handle and seal from door.
- (7) Secure seal and handle to door with attaching nuts and tighten to 40 inch-pounds (4.5 Nm) torque.
- (8) Install lock rod.
- (9) Install water dam paper.
- (10) Install door trim panel.

Lock Striker

The striker provides a secure retention point for the latch and prevents up and down movement of the door. It consists of a threaded, tempered-steel pin with a polyurethane sleeve for durable and cushioned operation. Use Torx Bit Tool J-25359-02 for removal, installation and adjustment.

Adjustment

- (1) Determine proper striker alignment (fig. 3J-68).
- NOTE:** Lock striker should enter latch smoothly with no up or down movement of the door. Door should open smoothly without dragging on striker.
- (2) Loosen and move striker to desired position.
 - (3) Tighten striker to 52 foot-pounds (70.5 Nm) torque.
 - (4) Apply lubricant to striker pin.

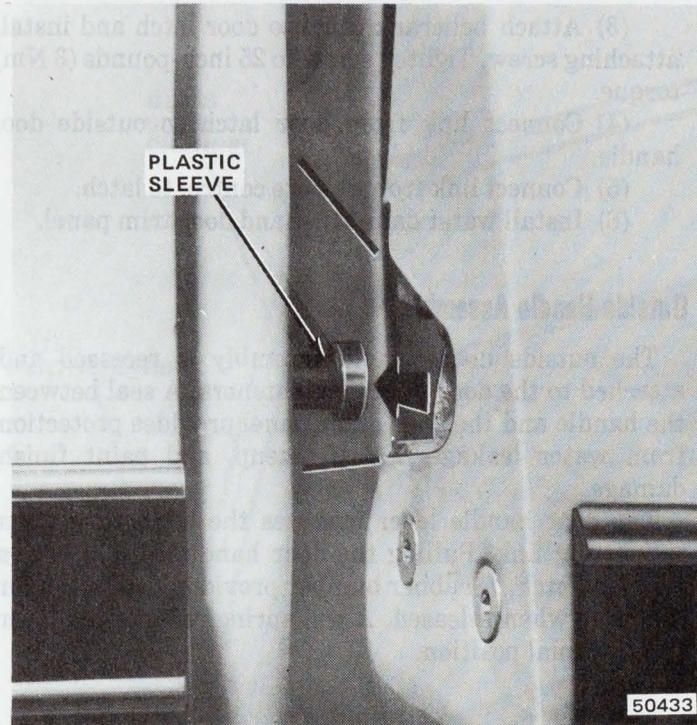


Fig. 3J-68 Lock Striker Alignment

CAUTION: Doublecheck for proper functioning. It is possible to set the striker in so far that the door is closed tight with only the safety catch engaged.

HINGE SYSTEM

A nylon bushing is inserted into the pin hole on the body half of the hinge. The hinge pin is serrated at the top to prevent movement of the pin.

A spring-loaded lever on the rear lower hinge provides a single door check.

Replacement

- (1) Position door in holding fixture.
- (2) Remove hinge-to-post attaching screws.
- (3) Remove door from car.
- (4) Remove hinge-to-door attaching screws.
- (5) Clean replacement hinges in a suitable solvent and blow dry with compressed air.
- (6) Color coat hinges to match body.
- (7) Lubricate hinges with AMC lubriplate or equivalent.
- (8) Position hinges on door and install attaching screws.
- (9) Position door in body opening and install hinge-to-post attaching screws.
- (10) Remove door holding fixture.
- (11) Perform necessary door adjustments.

Door Adjustment—Hornet-Matador

- (1) Remove latch striker.
- (2) Determine adjustment required.
 - (a) If in, out or up, or down adjustment is required, loosen hinge attaching screws at door and position door.
 - (b) Tighten hinge attaching screws to 20 foot-pound torque.
 - (c) If tilt or additional up or down or tilt adjustment is required, loosen hinge attaching screws at body pillar and move door to desired position.
 - (d) Tighten hinge attaching screws to 20 foot-pounds (27.1 Nm) torque.
- (3) Install and adjust lock striker. Tighten striker to 52 foot-pound (70.5 Nm) torque.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)	
Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Door Lock Striker	71	61-81	52 ft-lbs.
Nut - Door Handle to Door Panel	5	3-7	40
Screw - Cable to Latch Assembly	3	2-4	25
Screw - Door Hinge to Body	27	20-37	20 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.
Screw - Handle Door Latch Remote Assembly	5	4-6	40
Screw - Locking Latch to Inner Door Panel	5	5-7	45
Screw & Lockwasher R.R. - Door Window Frame to Door	17	11-25	150
Screw & Washer Assembly - Bellcrank to R.R. Door Panel	5	4-6	45
Screw - Window Stop Bracket to Door Panel	10	9-11	90
			80-100

MATADOR SEDAN AND STATION WAGON REAR DOOR

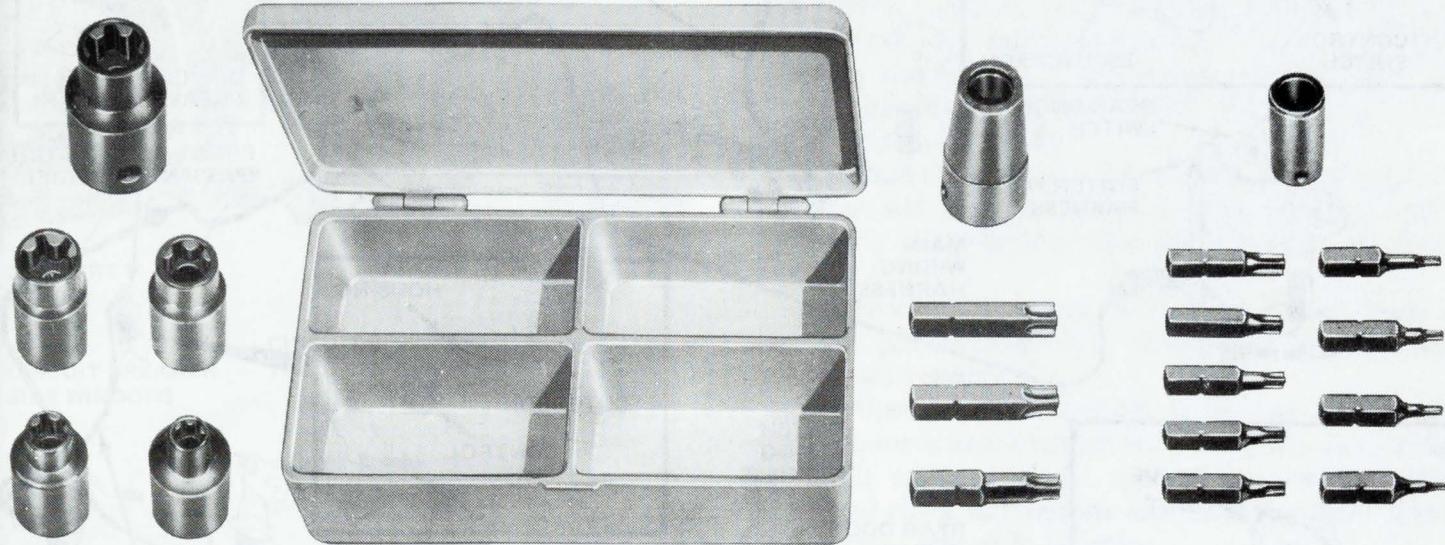
Door Lock Striker	71	61-81	52 ft-lbs.	45-60 ft-lbs.
Nut - Door Handle to Door Panel	5	3-7	40	25-60
Screw - Cable to Latch Assembly	3	2-4	25	15-35
Screw - Door Hinge to Body	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Door Hinge to Door	27	20-37	20 ft-lbs.	15-27 ft-lbs.
Screw - Handle Door Latch Remote Assembly	5	4-6	40	35-55
Screw - Locking Latch to Inner Door Panel	5	5-7	45	40-60
Screw & Lockwasher R.R. - Door Window Frame to Door	17	11-25	150	100-220
Screw & Washer Assembly - Bellcrank to R.R. Door Panel	5	4-6	45	35-55
Screw - Window Stop Bracket to Door Panel	10	9-11	90	80-100

MATADOR SEDAN AND STATION WAGON REAR DOOR GLASS

Screw - Door Window Guide Bracket to Channel	8	7-9	70	60-80
Screw - Regulator Mounting to Door Inner Panel	10	9-11	90	80-100
Screw - Regulator Slide to Door Inner Panel	10	9-11	90	80-100
Screw - Window Regulator Handle	5	3-6	40	30-50

Special Tools

J-2631-01
TRIM PAD DEPRESSOR



J-25359-02
TORX BIT AND SOCKET SET

70455A

ELECTRICALLY OPERATED WINDOWS

Page	Page		
Circuit Tests	3J-69	Rear Door Window Regulator	3J-72
Control Switch	3J-71	Regulator Motor and Drive Unit	3J-75
Front Door Window Regulator	3J-71	Specifications	3J-76
General	3J-69	Window Adjustment	3J-75

GENERAL

The window regulator motors (fig. 3J-69) are of a two-wire design, using polarity of the circuit to change motor rotation. The motor drives the drive unit through a rubber and plastic coupling in the drive unit housing which is bolted to the window regulator. The motor, coupling, and drive unit are serviced individually.

An individual control switch is provided for each side window and is mounted in the door trim panel. A complete set of control switches on the driver's door enables remote control operation of all side windows. As a safety feature, a fifth control switch allows only the driver to operate the windows. The ignition switch must be in the ON position to operate the windows.

CIRCUIT TESTS

A 20-amp circuit breaker is mounted at the far left side on the back of the instrument panel above the parking brake release handle (fig. 3J-70).

The circuit breaker (yellow and blue wires) supplies power to the electric side windows when the ignition switch is in the ON position. The black wires at the master control switch are the ground wires for the electric window circuits. They join in the harness and ground adjacent to the power window circuit breaker located at the lower left of the instrument panel.

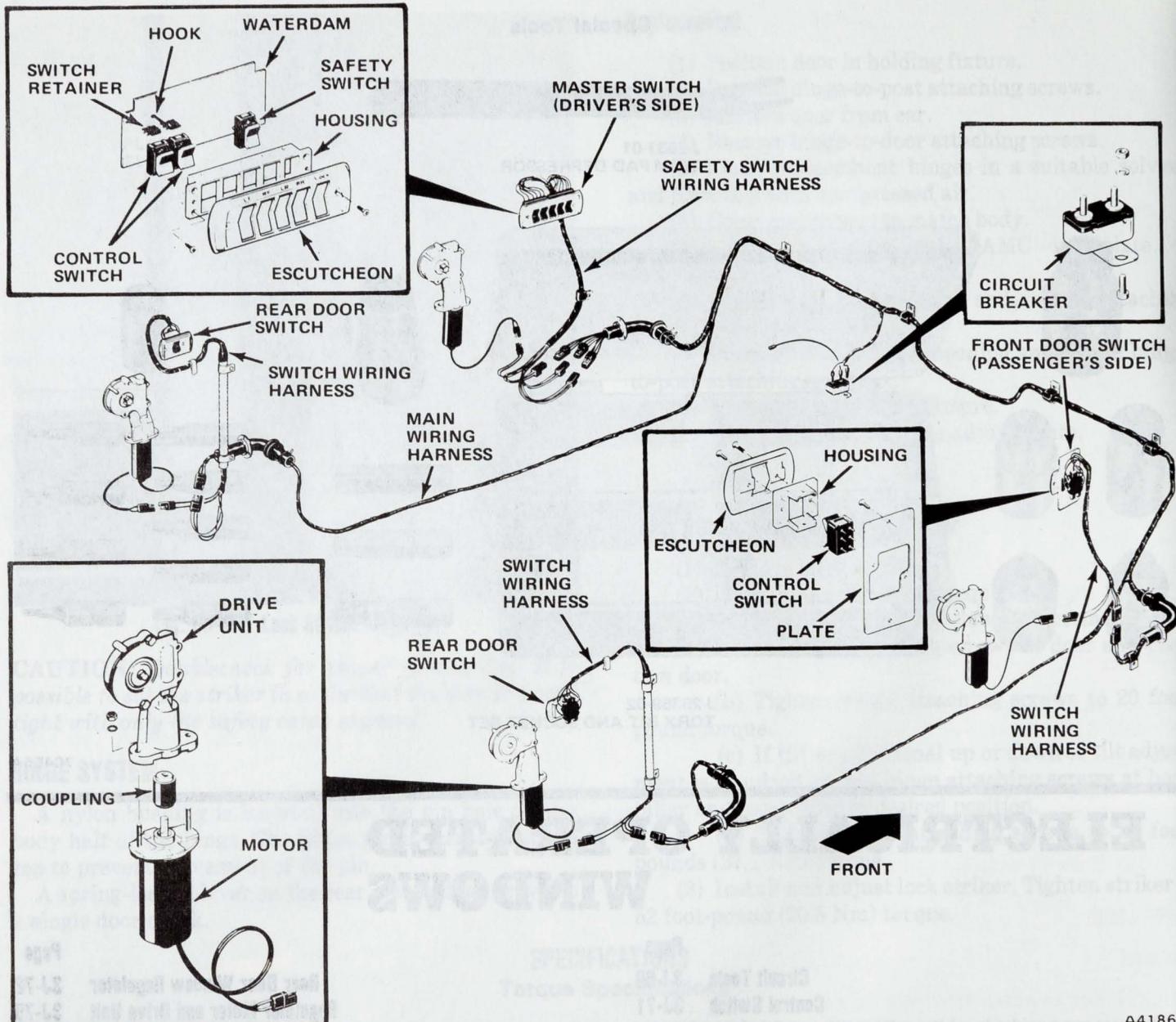


Fig. 3J-69 Electrically Operated Door Windows

Control and Safety Switch Test

NOTE: The safety switch, control switches, motors and wiring harness can be checked using a 12-volt test lamp.

(1) Remove safety switch escutcheon and housing.

(2) Separate halves of terminal plate by releasing barbed retainer hooks to expose wire terminal ends (fig. 3J-71).

(3) Turn ignition switch to ON position.

(4) Connect one lead of test lamp to a black wire and contact the other lead to the blue (not blue with tracer) terminal. Repeat this test procedure with second black wire in master switch.

(a) If lamp does not light, remove test lamp lead that was on black wire terminal and connect to a chassis ground.

(b) If lamp lights at this point, an open exists between the master switch and the ground terminal on the dash, adjacent to the circuit breakers.

(c) If lamp still does not light, it indicates a defective circuit breaker or an open in the blue wire from the circuit breaker to the master switch.

Circuit Breaker Test

(1) Disconnect yellow wire from circuit breaker and connect test lamp between yellow wire and chassis ground.

(2) Turn ignition switch to ON position. If lamp does not light, yellow wire has open circuit or ignition switch is defective.

(3) Reconnect yellow wire to circuit breaker.

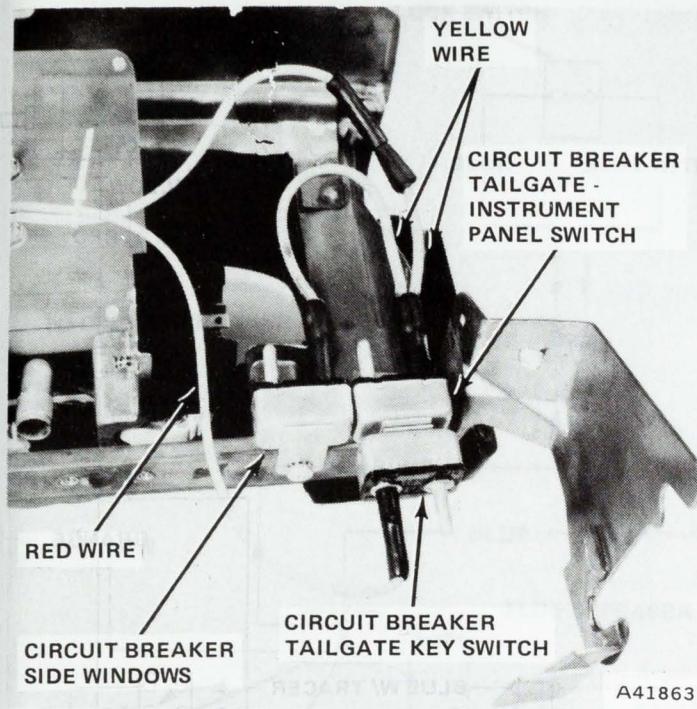


Fig. 3J-70 Circuit Breaker Location

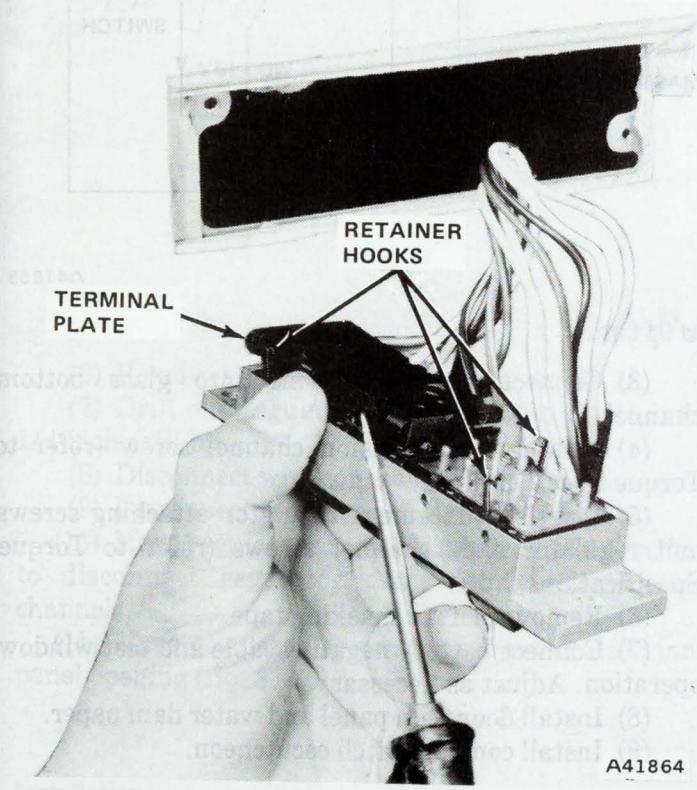


Fig. 3J-71 Terminal Plate Removal

(4) Disconnect blue wire from circuit breaker and connect test lamp to circuit breaker terminal and chassis ground. If lamp lights, circuit breaker is good. If lamp does not light, circuit breaker is defective.

Control Switch and Motor Test

Before checking individual door control switches, be sure the safety switch is in the ON position.

The safety switch controls the power source when using the individual control switches. This switch opens (off) or closes (on) the circuits to the individual control switches.

(1) Connect test lamp between terminals of green and white wire.

(2) Operate control switch up and down for respective window (fig. 3J-72 and 3J-73). If lamp lights in UP and DOWN position, test indicates that the green and white wires of wire harness to that window and back again to master switch are not defective. It also indicates that individual door switch on master control is not defective (fig. 3J-72).

(3) Connect test lamp lead to blue with tracer wire terminal and contact chassis ground. If lamp lights, continuity exists between individual switch and safety switch.

(4) Disconnect orange and yellow motor leads at terminal plate and connect these leads to green and white leads respectively.

(5) Operate master switch. If window goes up and down, motor is not defective but switch is defective (fig. 3J-73). If motor does not operate, remove door trim panel and check connections and leads to motor. If motor operates, switch is defective.

NOTE: It may be possible that switch and motor both are defective.

CONTROL SWITCH

Removal

CAUTION: Be sure ignition switch is in OFF position.

(1) Disconnect battery negative cable.

(2) Remove retaining screws and escutcheon.

(3) Remove switch housing screws. Pull switch out to expose wires.

(4) Disconnect terminal plate from switch.

(5) Depress retainer clips through holes in switch housing (fig. 3J-74) and remove switch.

Installation

(1) Hold retainer clips in position on switch and slide switch into housing. Press retainer clips until they click into position.

(2) Install terminal plate to switch and install housing in door.

(3) Install escutcheon and retaining screws.

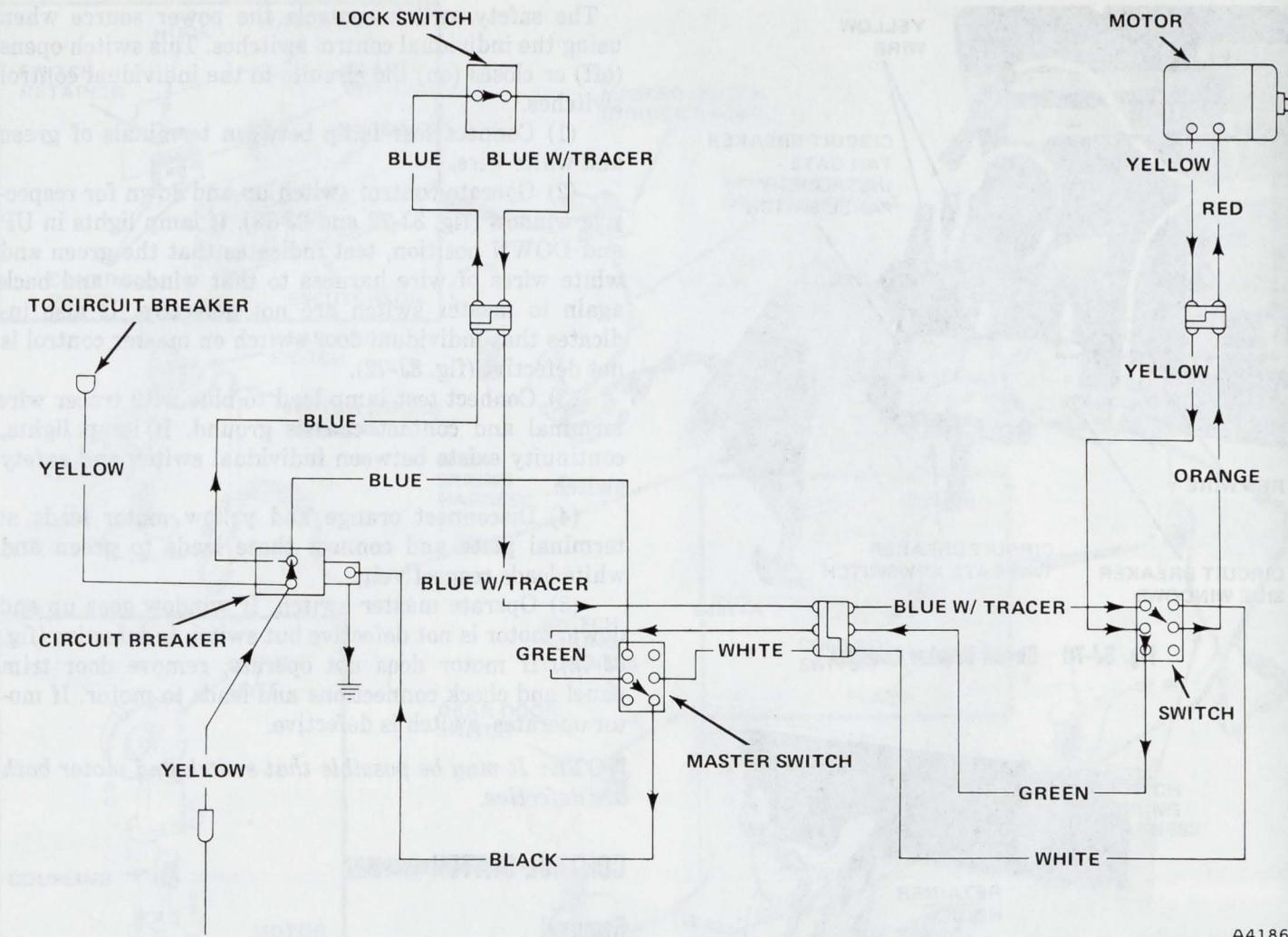
(4) Connect battery negative cable.

FRONT DOOR WINDOW REGULATOR

Removal

(1) Raise window to full UP position.

(2) Disconnect battery negative cable.



A41865

Fig. 3J-72 Window Up Circuit

- (3) Remove control switch escutcheon.
- (4) Remove door trim panel and water dam paper.
- (5) Insert a drift into hole in door inner panel or use masking tape to hold glass assembly in up position (fig. 3J-75).
- (6) Remove regulator slide channel attaching screws.
- (7) Drill out regulator attaching pop rivets, using 1/4-inch drill bit.
- (8) Remove lower division channel screw.
- (9) Move regulator channel assembly arms forward and then back to disconnect from glass bottom channel.
- (10) Disconnect wire connector from regulator motor.
- (11) Move regulator arms up and out of opening in inner panel.
- (12) Slide regulator motor and regulator assembly between inner panel and division channel to remove regulator and motor assembly (fig. 3J-75).

Installation

- (1) Install replacement regulator in door.
- (2) Connect wires.

- (3) Connect regulator arms into glass bottom channels.
- (4) Install lower division channel screw (refer to Torque Specifications).
- (5) Install replacement regulator attaching screws and regulator slide channel screws (refer to Torque Specifications).
- (6) Remove drift or masking tape.
- (7) Connect battery negative cable and test window operation. Adjust as necessary.
- (8) Install door trim panel and water dam paper.
- (9) Install control switch escutcheon.

REAR DOOR WINDOW REGULATOR

Removal

- (1) Raise window to full UP position.
- (2) Disconnect battery negative cable.
- (3) Remove control switch escutcheon.
- (4) Remove door trim panel and water dam paper.
- (5) Insert a drift into hole in inner panel or use masking tape to hold glass assembly in up position (fig. 3J-76).

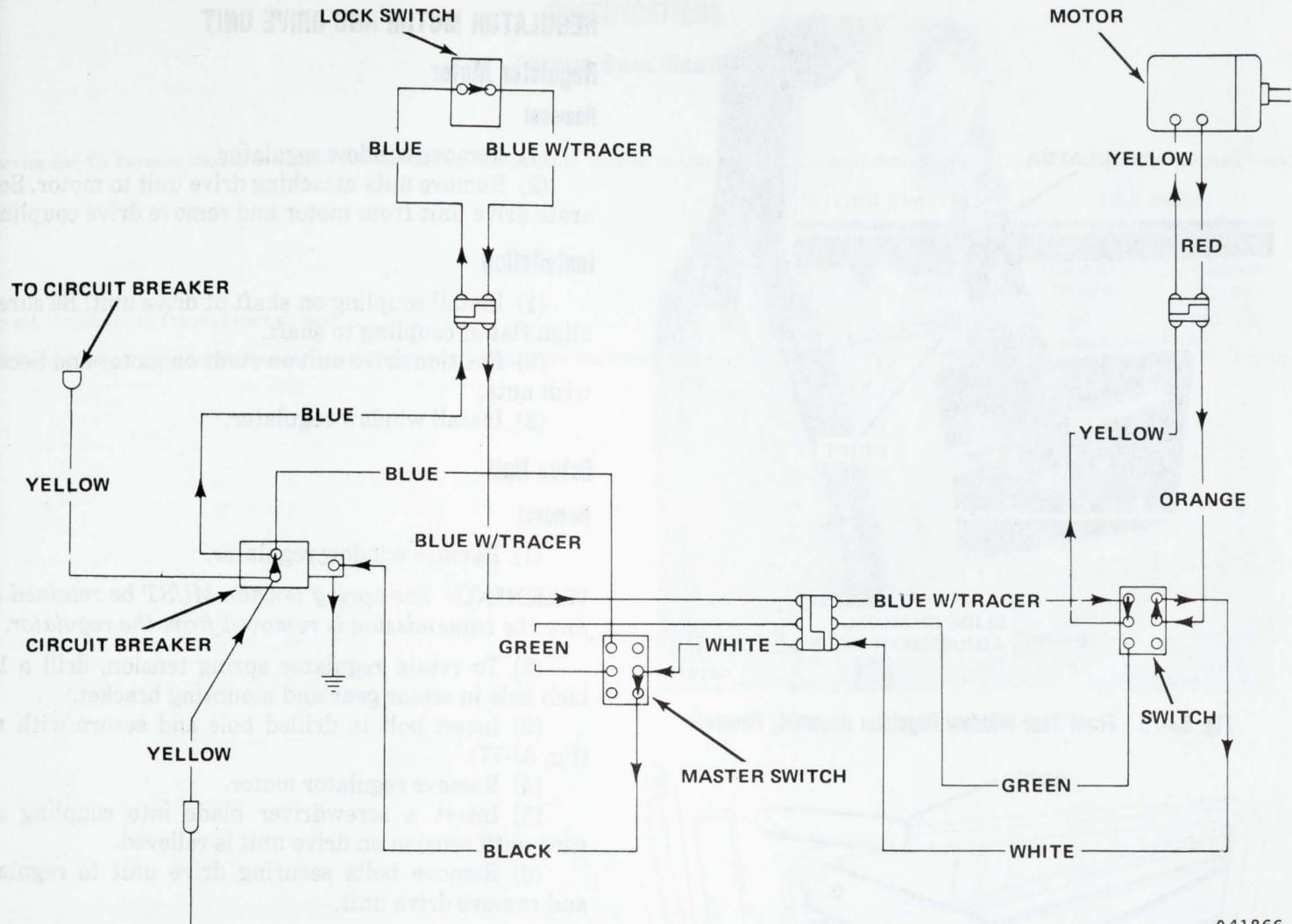


Fig. 3J-73 Window Down Circuit

A41866

- (6) Remove regulator slide channel screws.
- (7) Drill out regulator attaching pop rivets, using 1/4-inch drill bit.
- (8) Disconnect wire connector from motor.
- (9) Disconnect remote control rod from latch.
- (10) Move regulator assembly forward and then back to disconnect regulator arms from glass bottom channels.
- (11) Move regulator arms up and out of door inner panel opening (fig. 3J-76).

Installation

- (1) Install replacement regulator in door.
- (2) Connect regulator arms in glass bottom channels.
- (3) Connect wire connector to motor.
- (4) Install replacement regulator attaching screws and regulator slide channel screws (refer to Torque Specifications).
- (5) Connect remote control rod to latch.
- (6) Remove drift or masking tape.

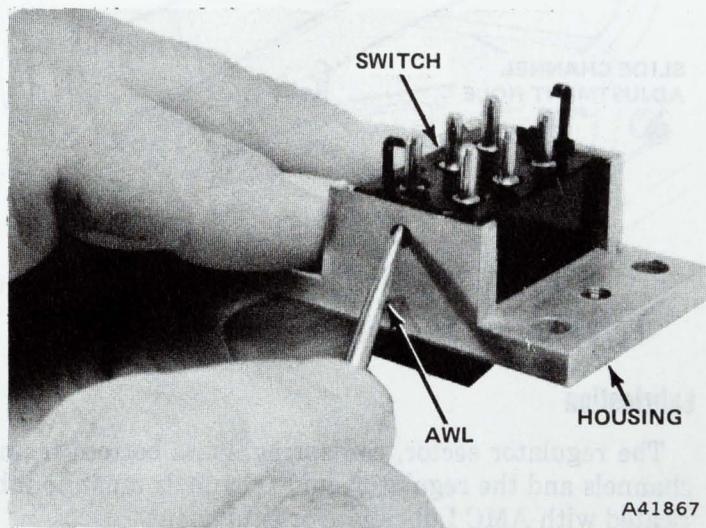


Fig. 3J-74 Removal of Switch from Housing

A41867

- (7) Connect battery negative cable and test window operation. Adjust as necessary.
- (8) Install water dam paper and door trim panel.
- (9) Install control switch escutcheon.

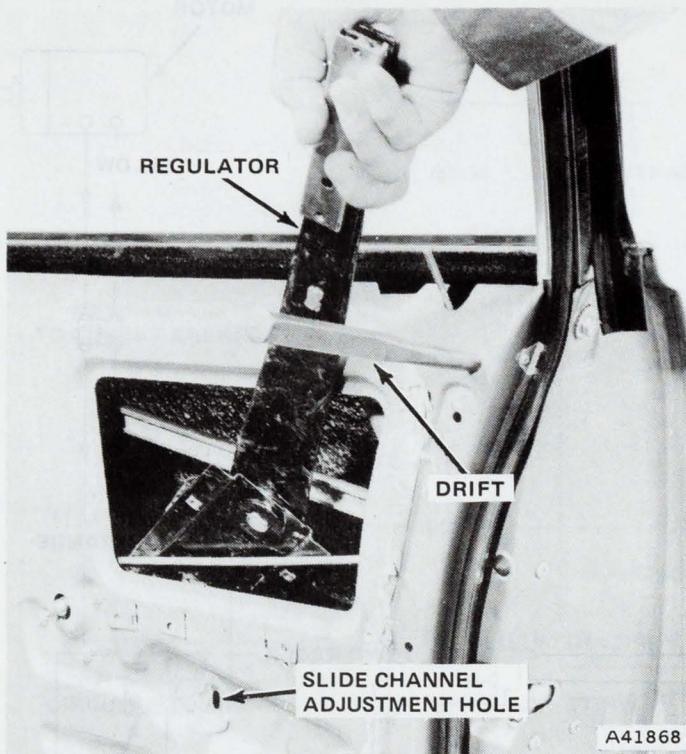


Fig. 3J-75 Front Door Window Regulator Assembly Removal

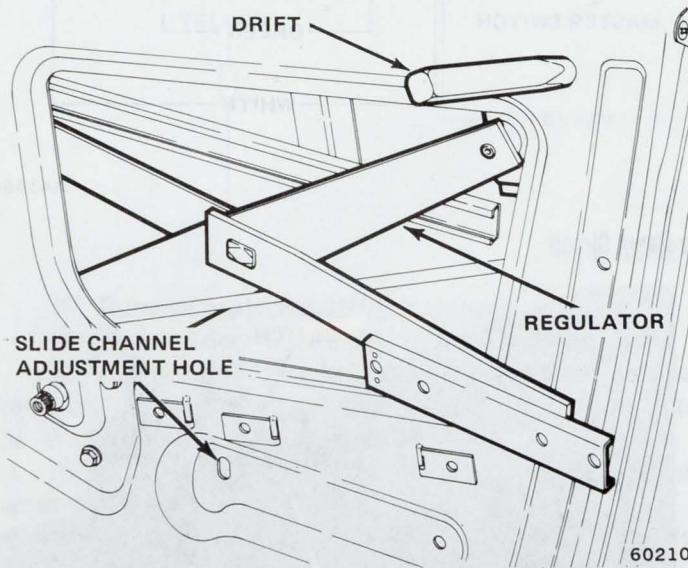


Fig. 3J-76 Rear Door Window Regulator Assembly Removal

Lubrication

The regulator sector, coil spring, glass bottom frame channels and the regulator guide channels must be lubricated with AMC Lubriplate or equivalent.

If the regulator is removed, wash in a cleaning solvent and dry with compressed air prior to lubrication.

WINDOW ADJUSTMENT

Adjustment of electrically operated windows is the same as for manually operated windows. Refer to preceding sections for adjustment procedures.

REGULATOR MOTOR AND DRIVE UNIT

Regulator Motor

Removal

- (1) Remove window regulator.
- (2) Remove nuts attaching drive unit to motor. Separate drive unit from motor and remove drive coupling.

Installation

- (1) Install coupling on shaft of drive unit. Be sure to align flat of coupling to shaft.
- (2) Position drive unit on studs on motor and Secure with nuts.
- (3) Install window regulator.

Drive Unit

Removal

- (1) Remove window regulator.

WARNING: The spring tension **MUST** be retained before the transmission is removed from the regulator.

- (2) To retain regulator spring tension, drill a 1/4 inch hole in sector gear and mounting bracket.
- (3) Insert bolt in drilled hole and secure with nut (fig. 3J-77).
- (4) Remove regulator motor.
- (5) Insert a screwdriver blade into coupling and turn until tension on drive unit is relieved.
- (6) Remove bolts securing drive unit to regulator and remove drive unit.

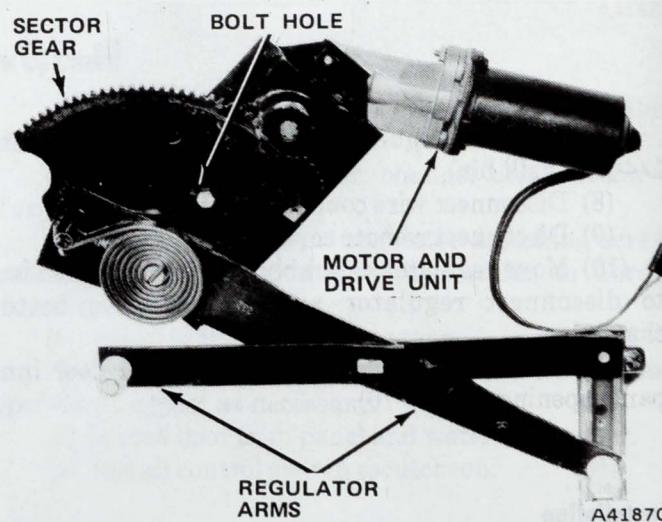


Fig. 3J-77 Spring Retention Bolt Hole Location

Installation

- (1) Position drive unit on regulator and secure with bolts.
- (2) Position motor on drive unit and secure with nuts.
- (3) Remove nut and bolt retaining spring tension.
- (4) Install regulator assembly in door.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. **Service In-Use Recheck Torques** should be used for checking a pre-torqued item.

	METRIC (N·m)		USA (in.lbs.)	
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Screw, Regulator to Door—Front or Rear	10	9-11	90	80-100

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

60293

REAR QUARTER

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PACER HATCHBACK REAR QUARTER

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	3K-2

TRIM

Center Pillar Trim Cover

Removal

- (1) Remove trim panel attaching screws and plastic fasteners.
- (2) Remove cover joint moulding.
- (3) Remove center pillar trim cover from B-pillar.

Installation

- (1) Position center pillar trim cover on shoulder belt and B-pillar.
- (2) Install trim panel attaching screws and plastic fasteners.
- (3) Install cover joint moulding.

Rear Quarter Side Trim Panel

Removal

- (1) Remove rear pillar trim cover.
- (2) Remove center pillar trim cover.

- (3) Remove rear quarter side trim panel attaching screws.
- (4) Remove trim panel.

Installation

- (1) Position rear quarter side trim panel on rear quarter.
- (2) Install trim panel attaching screws.
- (3) Install center pillar trim cover on B-pillar.
- (4) Install rear pillar trim cover on C-pillar.

Lower Rear Quarter Side Trim Panel

Removal

- (1) Remove center pillar trim cover from B-pillar.
- (2) Remove rear quarter side trim panel.
- (3) Remove rear seat cushion.
- (4) Remove door opening aluminum scuff plate.
- (5) Loosening rear seat back pivot bolts may assist in removal of trim panel.
- (6) Remove trim panel.

Installation

- (1) Install lower rear quarter side trim panel on rear quarter.
- (2) Tighten rear seat back pivot bolts, if loosened during removal.
- (3) Install door opening aluminum scuff plate.
- (4) Install rear seat back (refer to Chapter 3M).
- (5) Install rear seat cushion.
- (6) Install rear quarter side trim panel.
- (7) Install center pillar trim cover on B-pillar.

WINDOW SYSTEM**Stationary Rear Quarter Window**

The rear quarter side window is set into the window opening with butyl sealer. The solid rubber spacers at the front and bottom of the glass provide proper alignment and prevent the glass from settling.

Removal

- (1) Remove screws attaching C-pillar reveal moulding to pillar and remove moulding.

NOTE: Remove reveal moulding using Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11.

- (2) Insert Tool between moulding and glass parallel with glass.
- (3) Pry moulding from clips with a rolling action (fig. 3K-1).

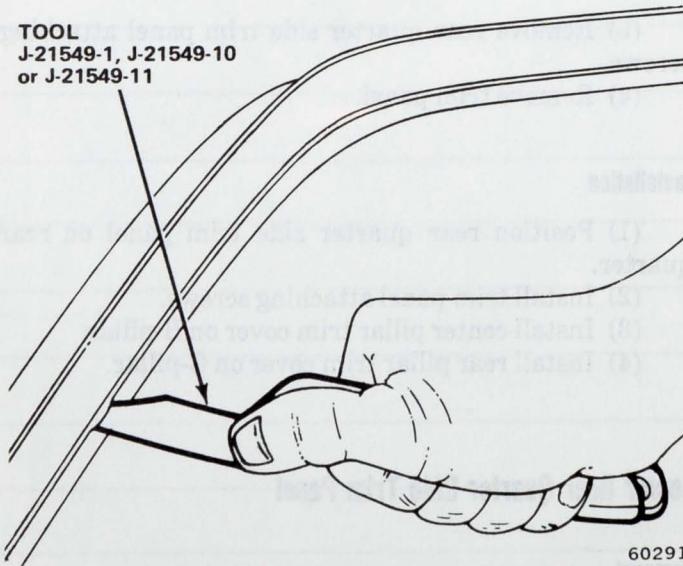


Fig. 3K-1 Reveal Moulding Removal—Typical

- (4) Apply foot pressure and slowly push glass outward along top until seal stretches 1 to 2 inches.

NOTE: Have an assistant cut butyl sealer.

- (5) Apply pressure and cut butyl sealer around complete glass.

(6) Use wood spacer blocks to keep glass separated from opening as sealer on glass adheres on contact to sealer on flange.

- (7) Remove glass and rubber spacer blocks.
- (8) Remove all butyl sealer from glass opening flange by grasping sealer and pulling away.
- (9) Remove remaining butyl sealer from flange.

NOTE: Form a ball with butyl sealer and dab or lift off remaining butyl sealer. Use 3M General Purpose Adhesive Cleaner, or equivalent, to clean remaining residue.

Installation

- (1) Correct any moulding or metal-to-glass defects.
- (2) Check reveal moulding clips for proper position or replace, if broken.

- (3) Position rubber spacer blocks as shown in figure 3K-2.

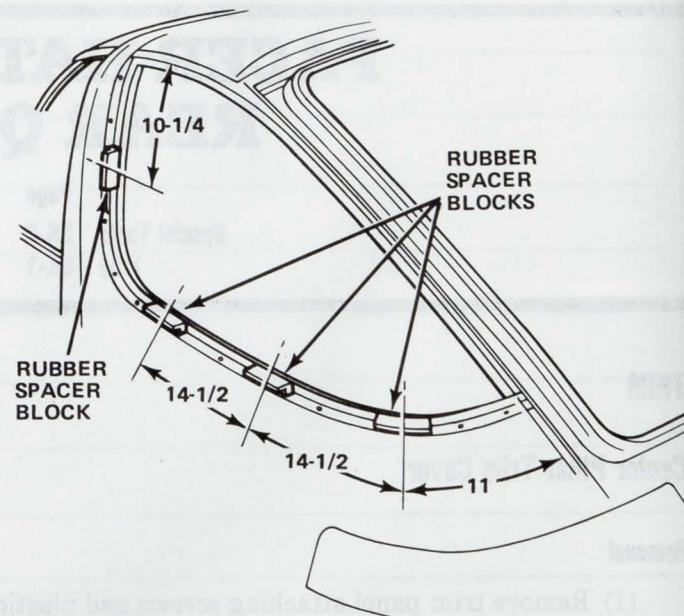


Fig. 3K-2 Installation of Rubber Spacer Blocks—Pacer (inches)

NOTE: Rubber spacer blocks must be in place to prevent glass from settling.

- (4) Position glass temporarily on spacer blocks in opening.

- (5) Center glass.

(6) Place masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact location when installing glass.

- (7) Cut tape below glass and remove glass.

(8) Clean glass and pinchweld flange area thoroughly (area must be completely clean and dry).

(9) Apply thin, uniform coat of butyl primer 1/2-inch wide on flange and glass.

NOTE: Allow primer to dry for a minimum of 10 minutes.

(10) Apply butyl sealer to pinchweld flange flush with edge of flange. Strip off paper liner as sealer is being applied.

(11) Cut sealer at corners to provide an even thickness.

(12) Place glass in opening exactly in alignment with masking tape markers, as primer on glass adheres to butyl sealer immediately on contact.

(13) Press glass firmly to butyl sealer, using hand pressure.

(14) Trim excess primer from glass with razor blade and clean with cloth-dampened in 3M General Purpose Adhesive Cleaner, or equivalent.

(15) Visually inspect butyl sealer-to-glass contact.

NOTE: Dull spots indicate poor contact. Apply hand pressure in these areas to improve seal.

(16) Water test around sealing area.

(17) Apply 3M Windo-Weld Resealant, or equivalent, with hand applicator gun to open areas.

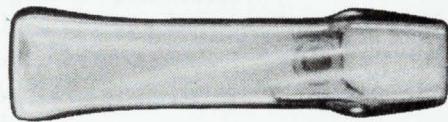
(18) Install reveal mouldings by pressing into position over clips in window opening.

(19) Install C-pillar reveal moulding and attaching screws.

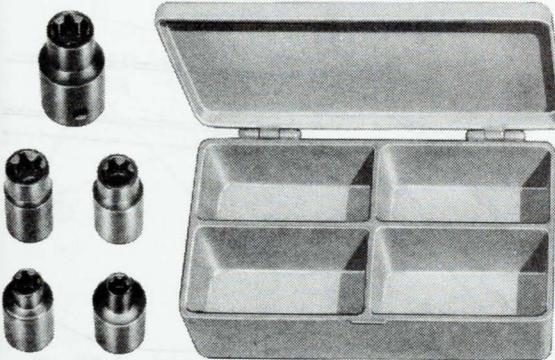
Special Tools



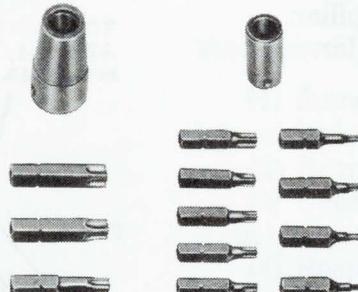
J-2631-01
TRIM PAD
DEPRESSOR



J-21549-1
HANDLE



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

50404

PACER WAGON REAR QUARTER

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TRIM

Center Pillar Trim Cover

Removal

(1) Remove trim panel attaching screws and plastic fasteners.

(2) Remove cover joint moulding.

(3) Remove center pillar trim cover from B-pillar.

Installation

(1) Position center pillar trim cover on shoulder belt and B-pillar.

- (2) Install trim panel attaching screws and plastic fasteners.
- (3) Install cover joint moulding.

Rear Quarter Side Trim Panel

Removal

- (1) Remove hidden compartment cover.
- (2) Remove rear pillar trim cover.
- (3) Remove center pillar trim cover.
- (4) Remove rear quarter side trim panel attaching screws.
- (5) Remove trim panel.

Installation

- (1) Position rear quarter side trim panel on rear quarter.
- (2) Install trim panel attaching screws.
- (3) Install center pillar trim cover on B-pillar.
- (4) Install rear pillar trim cover on C-pillar.
- (5) Install hidden compartment cover.

Lower Rear Quarter Side Trim Panel

Removal

- (1) Remove center pillar trim cover from B-pillar.
- (2) Remove rear quarter side trim panel.
- (3) Remove rear seat cushion.
- (4) Remove door opening aluminum scuff plate.
- (5) Loosening rear seat back pivot bolts may assist in removal of trim panel.
- (6) Remove trim panel.

Installation

- (1) Install lower rear quarter side trim panel on rear quarter.
- (2) Tighten rear seat back pivot bolts, if loosened during removal.
- (3) Install door opening aluminum scuff plate.

- (4) Install rear seat back (refer to Chapter 3M).
- (5) Install rear seat cushion.
- (6) Install rear quarter side trim panel.
- (7) Install center pillar trim cover on B-pillar.

WINDOW SYSTEM

Stationary Quarter Window

The rear quarter side window is set into the window opening with butyl sealer. The solid rubber spacers at the front and bottom of the glass provide proper alignment and prevent the glass from settling.

Removal

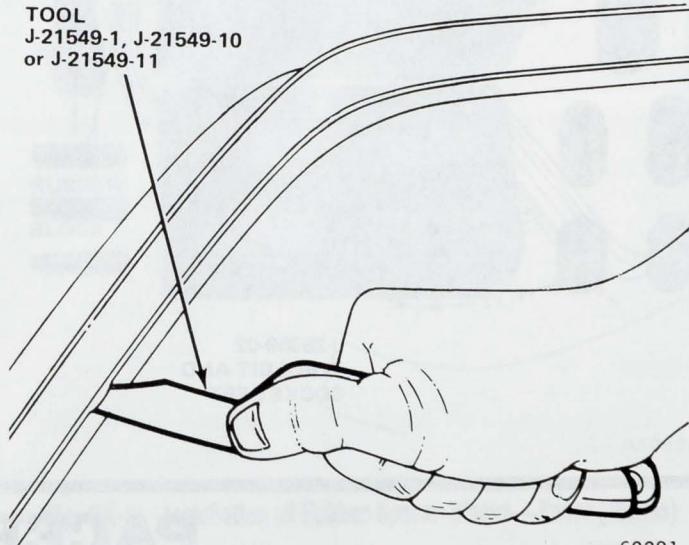
- (1) Remove division channel reveal moulding and window reveal moulding.

NOTE: Remove reveal moulding using Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11.

- (2) Insert tool between moulding and glass parallel with glass.

- (3) Pry moulding from clips with a rolling action (fig. 3K-3).

TOOL
J-21549-1, J-21549-10
or J-21549-11



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Fig. 3K-3 Reveal Moulding Removal—Typical

- (4) Apply foot pressure and slowly push glass outward along top until seal stretches 1 to 2 inches.

NOTE: Have an assistant cut butyl sealer.

- (5) Apply pressure and cut butyl sealer around complete glass.

- (6) Use wood spacer blocks to keep glass separated from opening as sealer on glass adheres on contact to sealer on flange.

- (7) Remove glass and rubber spacer blocks.
- (8) Remove all butyl sealer from glass opening flange by grasping sealer and pulling away.
- (9) Remove remaining butyl sealer from flange.

NOTE: Form a ball with butyl sealer and dab or lift off remaining butyl sealer. Use 3M General Purpose Adhesive Cleaner, or equivalent, to clean remaining residue.

Installation

- (1) Correct any moulding or metal-to-glass defects.
- (2) Check reveal moulding clips for proper position or replace, if broken.
- (3) Position rubber spacer blocks as shown in figure 3K-4.

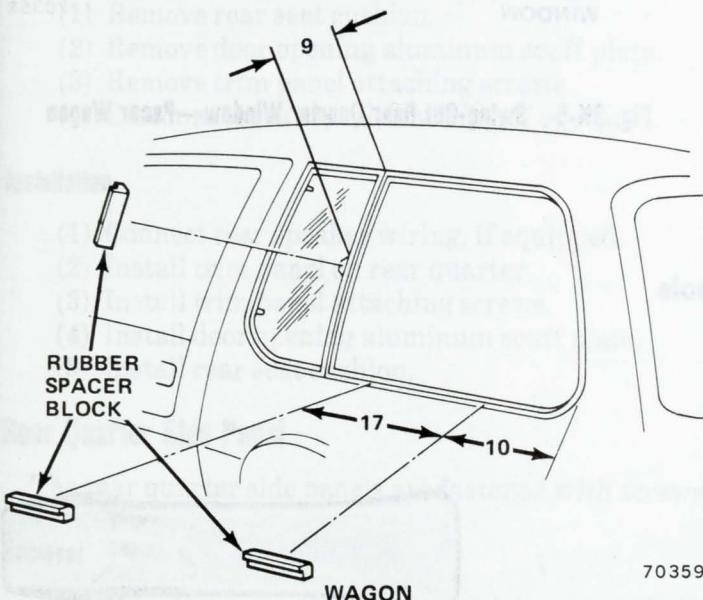


Fig. 3K-4 Installation of Rubber Spacer Blocks—Pacer (Inches)

NOTE: Rubber spacer blocks must be in place to prevent glass from settling.

- (4) Position glass temporarily on spacer blocks in opening.
- (5) Center glass.
- (6) Place masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact location when installing glass.
- (7) Cut tape below glass and remove glass.
- (8) Clean glass and pinchweld flange area thoroughly (area must be completely clean and dry).
- (9) Apply thin, uniform coat of butyl primer 1/2-inch wide on flange and glass.

NOTE: Allow primer to dry for a minimum of 10 minutes.

- (10) Apply butyl sealer to pinchweld flange flush with edge of flange. Strip off paper liner as sealer is being applied.

- (11) Cut sealer at corners to provide an even thickness.

- (12) Place glass in opening exactly in alignment with masking tape markers, as primer on glass adheres to butyl sealer immediately on contact.

- (13) Press glass firmly to butyl sealer, using hand pressure.

- (14) Trim excess primer from glass with razor blade and clean with cloth-dampened in 3M General Purpose Adhesive Cleaner, or equivalent.

- (15) Visually inspect butyl sealer-to-glass contact.

NOTE: Dull spots indicate poor contact. Apply hand pressure in these areas to improve seal.

- (16) Water test around sealing area.

- (17) Apply 3M Windo-Weld Resealant, or equivalent, with hand applicator gun to open areas.

- (18) Install reveal mouldings by pressing into position over clips in window opening.

- (19) Install division channel reveal moulding and window reveal moulding.

Swing-Out Rear Window

Glass Removal

- (1) Remove handle arm from stud by carefully driving out spring pin.

- (2) Remove hinge-to-glass attaching screws.

- (3) Open window carefully and pull glass away from hinges (toward rear).

- (4) Remove stud nut, washers and stud from glass.

Glass Installation

- (1) Install stud and washer in glass.

- (2) Install washer and nut on stud.

- (3) Position glass in hinges and install attaching screws.

- (4) Install handle arm-to-stud roll pin.

Channel and Frame Removal

The channel and frame assembly are fastened to the body opening with sheet metal screws around the perimeter of the frame. A polyurethane foam sealer is used between the frame and the body opening.

- (1) Remove reveal mouldings, using Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11 as shown in figure 3K-3.

- (2) Insert tool between moulding and glass, parallel with glass.

- (3) Pry mouldings from clips with a rolling action.

- (4) Remove stationary rear quarter window as outlined above.

(5) Remove frame-to-body attaching screws (fig. 3K-5).

(6) Carefully remove frame assembly.

NOTE: When removing frame assembly, avoid damaging polyurethane foam sealer installed between frame and body opening.

Channel and Frame Installation

(1) Apply foam sealer to inside perimeter of frame assembly.

(2) Position frame assembly in body opening.

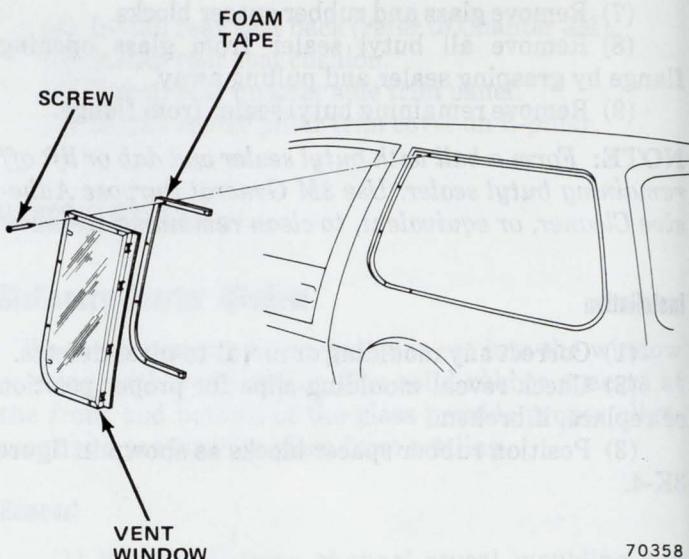
(3) Install frame-to-body attaching screws.

(4) Install stationary rear quarter window as outlined above.

(5) Water test around sealing area.

(6) Apply 3M Windo-Weld Resealant, or equivalent, with hand applicator gun to open areas.

(7) Install reveal mouldings by pressing into position over clips in window opening.



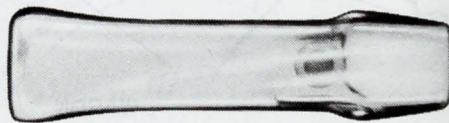
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Fig. 3K-5 Swing-Out Rear Quarter Window—Pacer Wagon

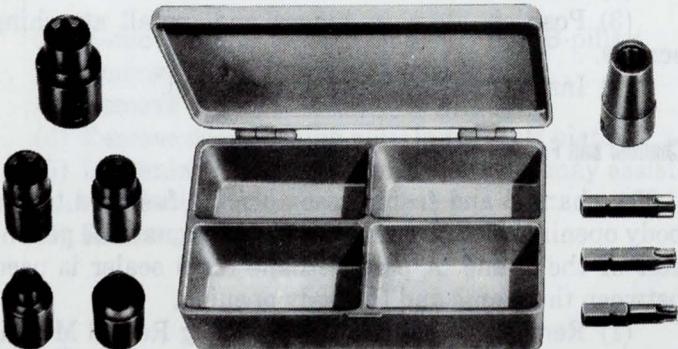
Special Tools



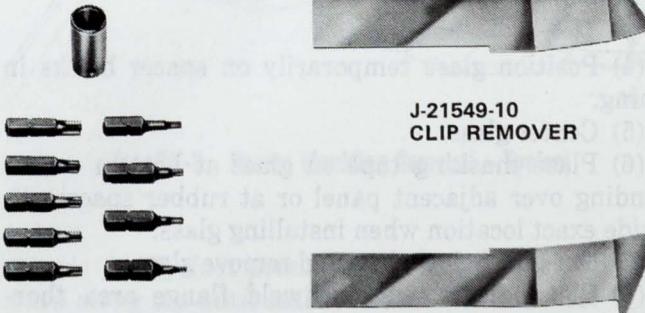
J-2631-01
TRIM PAD
DEPRESSOR



J-21549-1
HANDLE



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-10
CLIP REMOVER

J-21549-11
CLIP REMOVER

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GREMLIN REAR QUARTER

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Trim	3K-7

TRIM

Rear Quarter Side Trim Panel

Removal

- (1) Remove rear seat cushion.
- (2) Remove door opening aluminum scuff plate.
- (3) Remove trim panel attaching screws.
- (4) Disconnect rear speaker wiring, if equipped.

Installation

- (1) Connect rear speaker wiring, if equipped.
- (2) Install trim panel on rear quarter.
- (3) Install trim panel attaching screws.
- (4) Install door opening aluminum scuff plate.
- (5) Install rear seat cushion.

Rear Quarter Side Panel

The rear quarter side panels are fastened with screws.

Removal

- (1) Fold floor covering back on right side and lift out floor extension, to remove right side trim panel.
- (2) Remove spare tire and fold floor covering back to remove left side trim panel.
- (3) Remove trim panel attaching screws.
- (4) Disengage side trim panel from center trim panel alignment tabs and remove panel.

Installation

- (1) Position side trim panel on rear quarter and install attaching screws.
- (2) Install right side floor extension, if removed.
- (3) Install floor covering.
- (4) Replace spare tire.

Rear Center Trim Panel

The rear center trim panel is fastened with four nylon fasteners and screws along the bottom.

Removal

- (1) Fold floor covering back on right side and lift out floor extension.

- (2) Remove spare tire and fold floor covering back.
- (3) Remove trim panel-to-floorman attaching screws.
- (4) Using small screwdriver, carefully pry upper edge of trim panel away from rear body panel to expose nylon fasteners.
- (5) Using a flat-blade screwdriver, disengage four fasteners from rear body panel.
- (6) Carefully disengage side alignment tabs from side trim panels.
- (7) Remove center trim panel.

Installation

- (1) Position center trim panel in car and engage alignment tabs with side trim panels.
- (2) Engage four nylon fasteners into rear body panel.
- (3) Install trim panel-to-floorman attaching screws.
- (4) Install right side floor extension.
- (5) Install floor covering.
- (6) Install spare tire.

WINDOW SYSTEM

Stationary Rear Quarter Window

The stationary rear quarter window is retained in the window opening frame by a rubber channel. The rubber channel on the bottom of the assembly sits approximately one inch between the body panels. A rubber lip on the channel extends over the window opening pinch-weld flange.

Removal

- (1) Peel rubber channel down on inside of window opening pinchweld flange while pushing out on glass.

NOTE: If rubber channel is bonded to the pinchweld flange, spray a generous quantity of 3M Release Agent, or equivalent, between rubber channel and body. Allow 2 to 3 minutes for penetration and softening of adhesive. Proceed with glass removal.

- (2) When glass has been pushed away from upper flange area, pull window assembly up and out of lower flange area.

Installation

(1) Install glass and rubber channel as an assembly.

NOTE: Lubricate rubber channel with a soapy water solution.

(2) Press window firmly in place.

(3) Pull rubber channel from inside of car over window opening pinchweld flange.

NOTE: Use a fiber stick to start rubber channel over flange.

(4) Maintain pressure against glass while pulling rubber over flange.

(5) Apply 3M Windshield Sealer, or equivalent, between channel and glass using a hand applicator gun with a small nozzle.

(6) Wipe off surplus sealer.

Swing-Out Rear Quarter Window

The swing-out rear quarter window is attached in

three places: at the handle assembly (located at the rear of the glass), a stud extending off the frame into the roof, and a threaded stud, extending through the B-pillar and attached with a special nut.

Frame Removal

(1) Remove window latch handle-to-body attaching screws.

(2) Remove plug button in forward side of B-pillar.

(3) Remove lower pivot nut.

NOTE: Pack body putty in socket wrench to prevent nut from dropping into pillar.

(4) Open window carefully and pull lower end of frame away from pillar (toward rear) to disconnect lower bolt from pillar and slide upper pin from roof rail.

(5) Remove handle arm from stud by carefully driving out spring pin (fig. 3K-6).

(6) Remove stud nut, wave washer, and collar washer from glass.

(7) Remove stud and collar washer from glass.

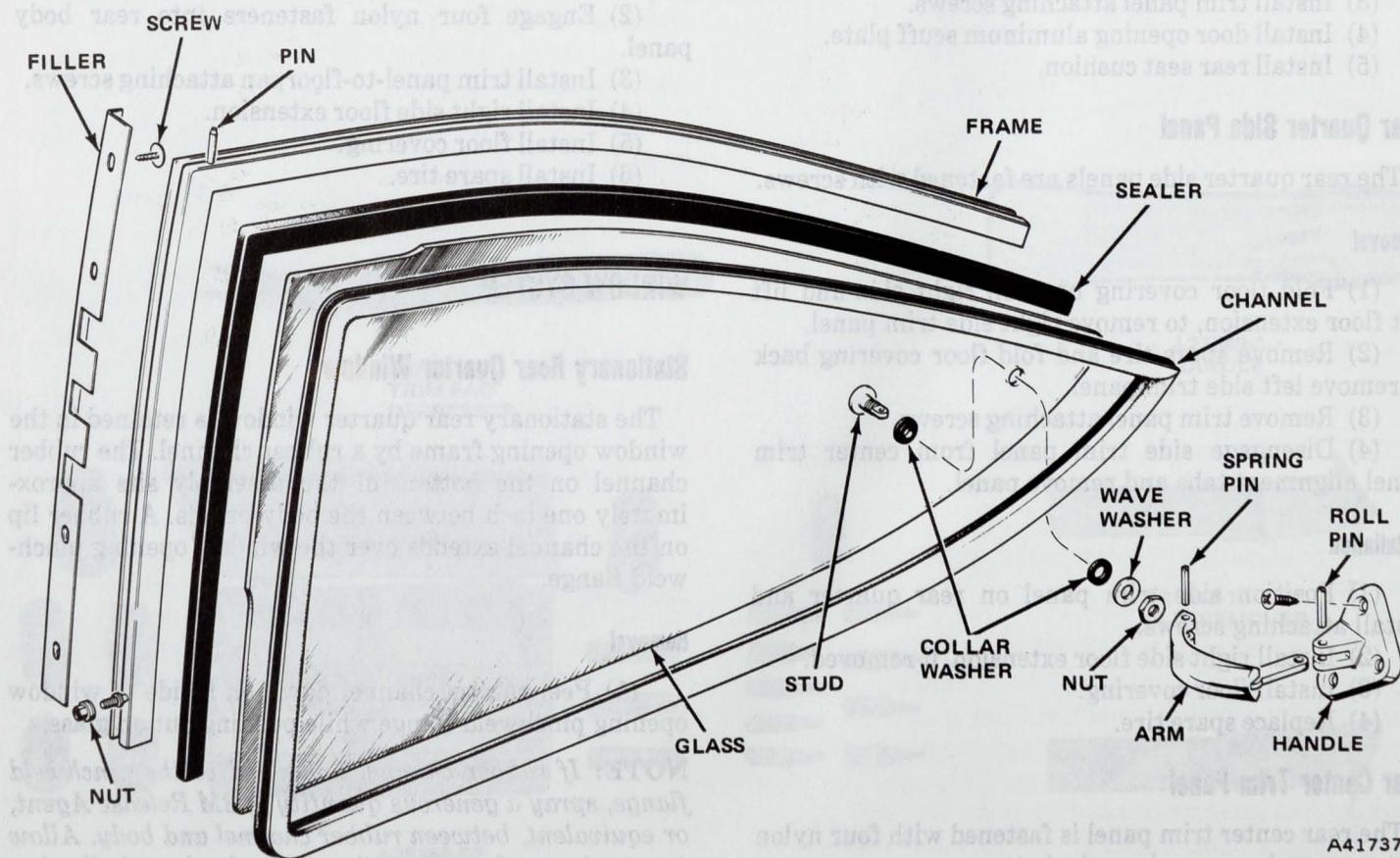


Fig. 3K-6 Swing-Out Rear Quarter Window Assembly

Frame Installation

- (1) Install stud and collar washer in glass.
- (2) Install collar washer, wave washer, and nut on stud.
- (3) Install handle arm-to-stud roll pin (fig. 3K-6).
- (4) Install frame upper pin in roof rail, engage lower pivot bolt into pillar hole, and install lower pivot attaching nut.
- (5) Install plug in forward side of B-pillar.
- (6) Install window handle-to-body attaching screws.

Glass Removal

- (1) Remove swing-out window and frame assembly.
- (2) Remove glass from frame.

NOTE: If sealer or glass are bonded to window frame, spray a generous quantity of 3M Release Agent, or

equivalent, between sealer and frame. Allow 2 to 3 minutes for penetration and softening of adhesive. Proceed with glass or sealer removal.

- (3) Remove glass sealer from window frame recess.

Glass Installation

- (1) Position replacement glass sealer on glass edge to obtain equal spacing on both sides of glass.
- (2) Apply soapy solution to glass sealer and window frame recess.
- (3) Position and press glass and glass sealer into frame.
- (4) Trim glass sealer excess from glass.
- (5) Apply bead of clear silicone sealer such as 3M Super Silicone Sealer, or equivalent, to glass inside edge and frame to obtain smooth edge.
- (6) Install swing-out window and frame assembly as outlined above.

SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Quarter Window "B" Pillar Retaining Nut — Gremlin	3	2-3	25	18-27
Quarter Window Glass to Latch — Gremlin	4	3-4	32	27-37
Quarter Window Latch to Body — Gremlin	3	2-3	25	18-27
Retainer — Bracket Rear Seat Back Latch Rod to Wheelhouse — Gremlin	5	3-6	40	25-50

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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CONCORD—AMX HATCHBACK REAR QUARTER

	Page		Page
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TRIM**Rear Quarter Side Trim Panel****Removal**

- (1) Remove seat cushion.

- (2) Remove trim panel screws.
- (3) Pry out trim panel clips using Trim Pad Depressor Tool J-2631-01.
- (4) Lift panel and remove.

Installation

- (1) Position trim panel and push clips into clip holes.

- (2) Install panel screws.
- (3) Install seat cushion.

Roof Extension Trim Panel

The roof extension trim panel is fastened to the roof with sheet metal screws. The extension panel also forms the rear window side finish moulding.

Replacement

- (1) Remove rear seat cushion and back as outlined in Chapter 3M.
- (2) Remove extension trim panel attaching screws and remove panel.
- (3) Position panel in car and install attaching screws.

NOTE: An awl or similar tool may be helpful in locating holes in sheet metal.

- (4) Install rear seat back and cushion as outlined in Chapter 3M.

Lower Corner Trim Panel

Replacement

- (1) Remove screws attaching lower corner trim panel to sheet metal.
- (2) Remove lower corner trim panel.
- (3) Position lower corner trim panel in car and install attaching screws.

NOTE: An awl or similar tool may be helpful in locating holes in sheet metal.

Striker Cover

Replacement

- (1) Remove screws attaching striker cover to sheet metal.
- (2) Remove striker cover.

- (3) Position striker cover in car and install attaching screws.

WINDOW SYSTEM

Rear Quarter Pivoting Window

Frame Removal

- (1) Remove window latch handle-to-body attaching screws (fig. 3K-7).
- (2) Remove plug button in forward side of B-pillar.
- (3) Remove lower pivot nut.

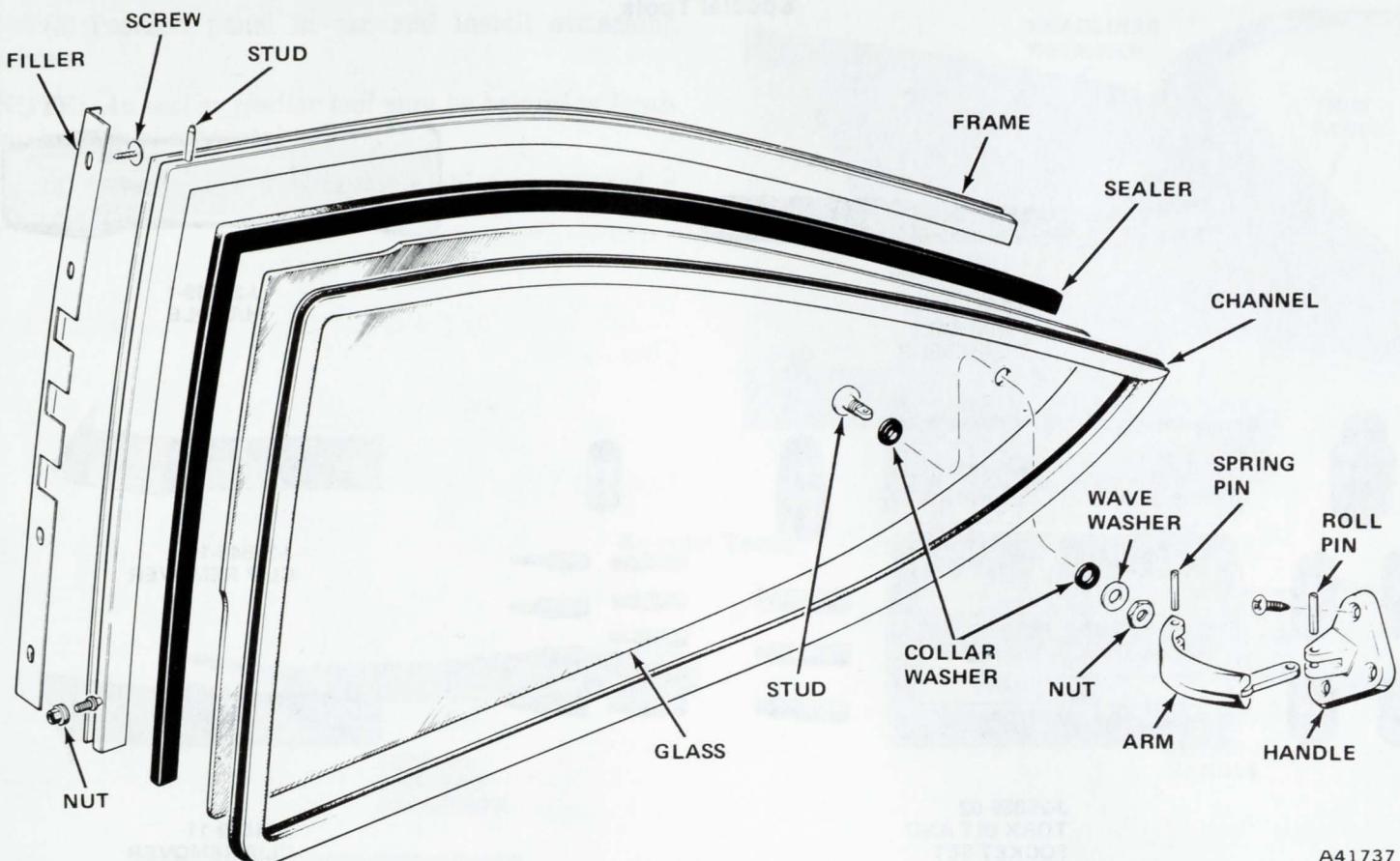
NOTE: Pack body putty in socket wrench to prevent nut from dropping into pillar.

(4) On AMX models, the Targa band must be removed from the aluminum extrusions at the belt line, as follows:

- (a) Remove lower horizontal decorative cover at bottom of Targa band.
- (b) Remove two screws attaching Targa band and filler block to lower bracket.
- (c) Pry out vinyl extrusions located on either side of Targa band until band is free up to the roof drip rail.
- (5) Open window carefully and pull lower end of frame away from B-pillar (toward rear) to free lower stud.
- (6) Pull forward edge of window frame down to free stud located in roof header and remove glass and frame assembly.
- (7) Remove handle arm from stud by carefully driving out spring pin.
- (8) Remove stud nut, wave washer, and collar washer from glass.

Frame Installation

- (1) Install stud and collar washer in glass.
- (2) Install collar washer, wave washer, and nut on stud.
- (3) Install handle arm-to-stud roll pin.
- (4) Install frame upper stud in roof header.
- (5) Rotate frame toward B-pillar and locate lower threaded stud into B-pillar hole.
- (6) Install and tighten B-pillar nut, and insert plastic plug.
- (7) On AMX models, carefully insert Targa band vinyl extrusions into aluminum extrusions. If some difficulty is experienced, a rawhide-headed mallet may be used.
- (8) Position spacer block on lower bracket and install two screws attaching Targa band and spacer block to lower bracket.
- (9) Install lower horizontal decorative cover.



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Fig. 3K-7 Swing-Out Rear Quarter Window Assembly

Glass Removal

- (1) Remove window and frame assembly from car as outlined above.
- (2) Remove glass from frame.

NOTE: If sealer or glass are bonded to window frame, spray a generous quantity of 3M Release Agent, or equivalent, between sealer and frame. Allow 2 to 3 minutes for penetration and softening of adhesive. Proceed with glass or sealer removal.

- (3) Remove glass sealer from window frame recess.

Glass Installation

- (1) Position replacement glass sealer on glass edge to obtain equal spacing on both sides of glass.
- (2) Apply soapy solution to glass sealer and window frame recess.
- (3) Position and press glass and glass sealer into frame.
- (4) Trim glass sealer excess from glass.
- (5) Apply bead of clear silicone sealer such as 3M Super Silicone Sealer, or equivalent, to glass inside edge and frame to obtain smooth edge.
- (6) Install window and frame assembly as outlined above.

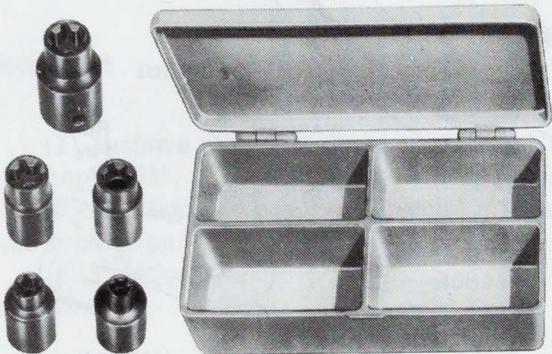
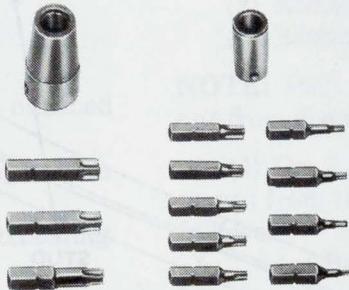
SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in.lbs.)	
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque
			In-Use Recheck Torque
Quarter Window "B" Pillar Retaining Nut	3	2-3	25
Quarter Window Glass to Latch	4	3-4	32
Quarter Window Latch to Body	3	2-3	25
Retainer — Bracket Rear Seat Back Latch Rod to Wheelhouse	5	3-6	40
			18-27
			27-37
			18-27
			25-50

All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

70321B

Special ToolsJ-2631-01
TRIM PAD
DEPRESSORJ-21549-1
HANDLEJ-25359-02
TORX BIT AND
SOCKET SETJ-21549-10
CLIP REMOVERJ-21549-11
CLIP REMOVER

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CONCORD 4-DOOR SEDAN REAR QUARTER

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Special Tools 3K-13

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Trim 3K-12

TRIM**Rear Quarter Side****Removal**

- (1) Remove seat cushion.
- (2) Remove trim panel screws.
- (3) Pry out trim panel clips using Trim Pad Depressor Tool J-2631-01.
- (4) Lift panel and remove.

Installation

- (1) Position trim panel and push clips into clip holes.

- (2) Install panel screws.
- (3) Install seat cushion.

Roof Extension Trim Panel

The roof extension trim panel is fastened to the roof with sheet metal screws. The extension panel also forms the rear window side finish moulding (fig. 3K-8).

Replacement

- (1) Remove rear seat cushion and back as outlined in Chapter 3M.
- (2) Remove extension trim panel attaching screws and remove panel.

(3) Position panel in car and install attaching screws.

NOTE: An awl or similar tool may be helpful in locating holes in sheet metal.

(4) Install rear seat back and cushion as outlined in Chapter 3M.

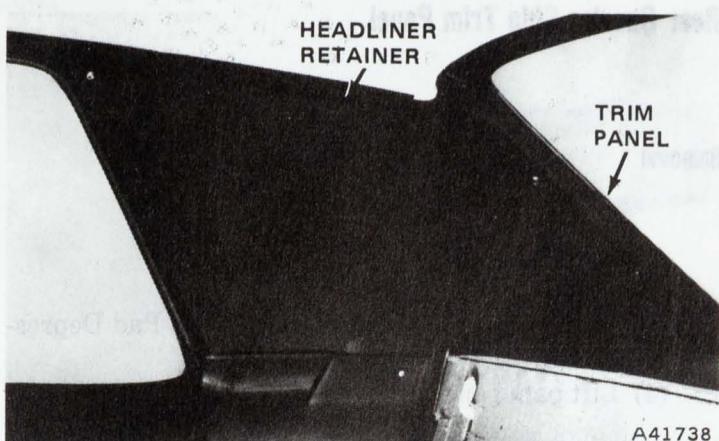


Fig. 3K-8 Roof Extension Trim Panel

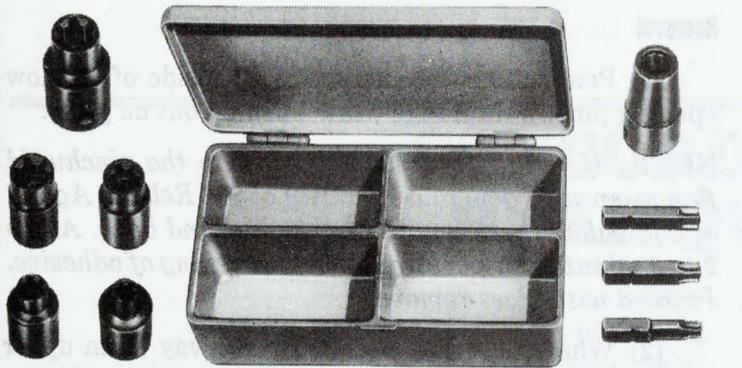
Special Tools



J-2631-01
TRIM PAD
DEPRESSOR



J-21549-1
HANDLE



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

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CONCORD 2-DOOR SEDAN REAR QUARTER

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Window System 3K-14

TRIM

Armrest Replacement

(1) Remove attaching screws and overlay strip, if equipped.

(2) Remove attaching screws and armrest.

(3) To install, position armrest on rear quarter and install attaching screws.

(4) Install overlay strip and attaching screws, if equipped.

Rear Quarter Side Trim Panel**Removal**

- (1) Remove seat cushion.
- (2) Remove trim panel screws.
- (3) Pry out trim panel clips using Trim Pad Depressor Tool J-2631-01.
- (4) Lift panel and remove.

Installation

- (1) Position trim panel and push clips into clip holes.
- (2) Install panel screws.
- (3) Install seat cushion.

Roof Extension Trim Panel

The roof extension trim panel is fastened to the roof with sheet metal screws. The extension panel also forms the rear window side finish moulding (fig. 3K-9).

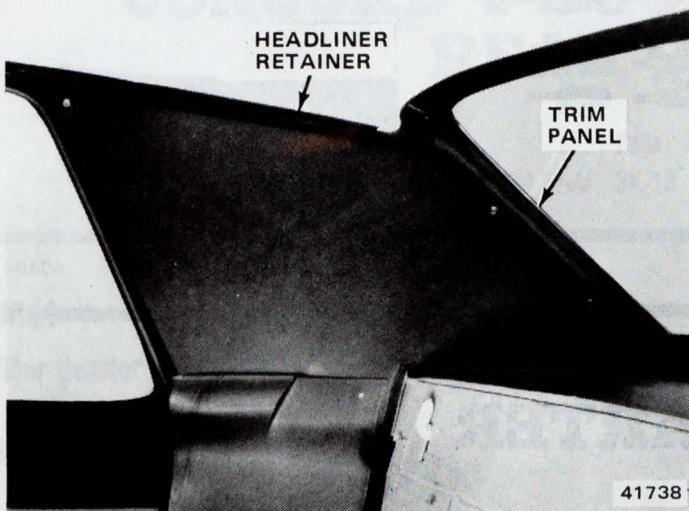


Fig. 3K-9 Roof Extension Trim Panel

Replacement

- (1) Remove rear seat cushion and back as outlined in Chapter 3M.

(2) Remove extension trim panel attaching screws and remove panel.

(3) Position panel in car and install attaching screws.

NOTE: An awl or similar tool may be helpful in locating holes in sheet metal.

(4) Install rear seat back and cushion as outlined in Chapter 3M.

WINDOW SYSTEM**Stationary Rear Quarter Window**

The stationary rear quarter window is retained in the window opening frame by a rubber channel. The rubber channel on the bottom of the assembly sits approximately one inch between the body panels. A rubber lip on the channel extends over the window opening pinch-weld flange.

Removal

- (1) Peel rubber channel down on inside of window opening pinchweld flange while pushing out on glass.

NOTE: If rubber channel is bonded to the pinchweld flange, spray a generous quantity of 3M Release Agent, or equivalent, between rubber channel and body. Allow 2 to 3 minutes for penetration and softening of adhesive. Proceed with glass removal.

- (2) When glass has been pushed away from upper flange area, pull window assembly up and out of lower flange area.

Installation

- (1) Install glass and rubber channel as an assembly.

NOTE: Lubricate rubber channel with a soapy water solution.

- (2) Press window firmly in place.
- (3) Pull rubber channel from inside of car over window opening pinchweld flange.

NOTE: Use a fiber stick to start rubber channel over flange.

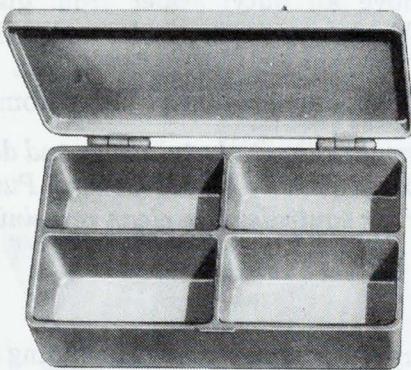
- (4) Maintain pressure against glass while pulling rubber over flange.

(5) Apply 3M Windshield Sealer, or equivalent, between channel and glass using a hand applicator gun with a small nozzle.

- (6) Wipe off surplus sealer.

Special Tools

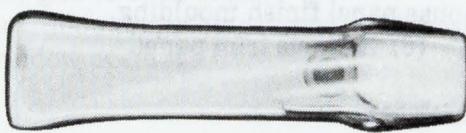
**J-2631-01
TRIM PAD
DEPRESSOR**



**J-25359-02
TORX BIT AND
SOCKET SET**



**J-21549-1
HANDLE**



**J-21549-10
CLIP REMOVER**



**J-21549-11
CLIP REMOVER**

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CONCORD WAGON REAR QUARTER

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TRIM**Rear Quarter Side Trim Panel****Removal**

- (1) Remove seat cushion.
- (2) Remove trim panel screws.
- (3) Pry out trim panel clips using Trim Pad Depressor Tool J-2631-01.
- (4) Lift panel and remove.

Installation

- (1) Position trim panel and push clips into clip holes.

- (2) Install panel screws.
- (3) Install seat cushion.

Rear Wheelhouse Trim Panel

The trim panel is retained at the top by a channel formed by the inner wheelhouse panel and is fastened along the bottom and sides with screws.

Removal

- (1) Remove rear seat cushion and back as outlined in Chapter 3M.
- (2) Remove rear seat back striker from wheelhouse.
- (3) Remove auxiliary floorpan.
- (4) Remove trim panel-to-floorpan attaching screws and trim pieces at each end.

(5) Press trim panel at top and pull out at bottom until panel slips out of retainer formed by inner wheelhouse panel finish moulding.

(6) Remove trim panel.

Installation

(1) Install trim panel in retainer at inner wheelhouse panel finish moulding.

(2) Install trim panel-to-floorpan attaching screws and trim pieces at each end.

(3) Install auxiliary floorpan.

(4) Install rear seat back striker.

(5) Install rear seat back and cushion.

WINDOW SYSTEM

Stationary Rear Quarter Window

The rear quarter side window is set into the window opening with butyl sealer. A glass protector rubber is set into the L-shaped flange around the window opening. The solid rubber spacers at the front and bottom of the glass provide proper alignment and prevent the glass from settling.

Removal

NOTE: Remove reveal moulding using Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11 as shown in figure 3K-10.

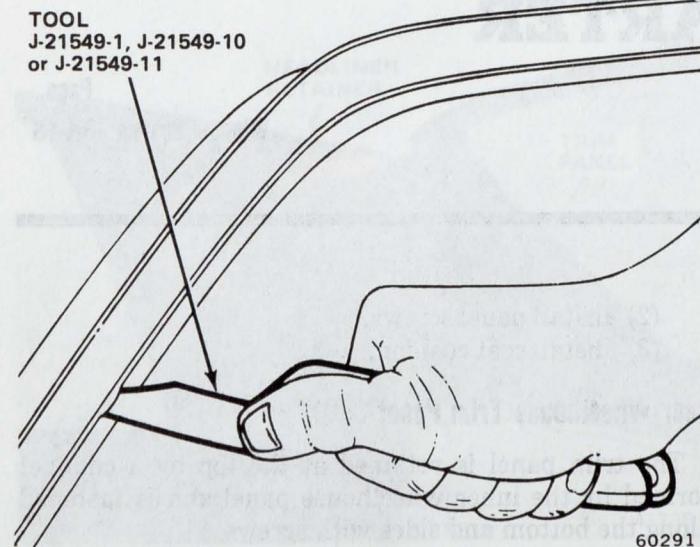


Fig. 3K-10 Reveal Moulding Removal—Typical

(1) Insert Tool between moulding and glass, parallel with glass.

(2) Pry moulding from clips with a rolling action (fig. 3K-10).

(3) Apply foot pressure and slowly push glass outward along top until butyl seal stretches 1 to 2 inches.

NOTE: Have an assistant cut butyl sealer.

(4) Apply pressure and cut butyl sealer around complete glass.

NOTE: Use wood spacer blocks to keep glass separated from opening as sealer on glass adheres on contact to sealer on flange.

(5) Remove all butyl sealer from glass opening pinchweld flange by grasping sealer and pulling directly away.

(6) Remove remaining butyl sealer from flange.

NOTE: Form a ball with butyl sealer and dab or lift off remaining butyl sealer. Use 3M General Purpose Adhesive Cleaner, or equivalent, to clean remaining residue.

Installation

(1) Correct previously noted moulding or metal-to-glass defects.

(2) Check reveal moulding clips for proper position or replace, if broken.

(3) Install protector, if removed.

(4) Check position of rubber spacer blocks.

NOTE: Rubber spacer blocks must be in place to prevent glass from settling.

(5) Position glass temporarily on spacer blocks in opening.

(6) Center glass.

(7) Place masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact location when installing glass.

(8) Cut tape below glass and remove glass.

(9) Clean glass and pinchweld flange thoroughly (area must be completely clean and dry).

(10) Apply thin, uniform coat of butyl primer 1/2-inch wide on pinchweld flange and glass.

NOTE: Allow primer to dry for a minimum of 10 minutes.

(11) Apply butyl sealer to pinchweld flange flush with edge of flange.

(12) Strip off paper liner as sealer is being applied.

(13) Cut sealer at corners to provide an even thickness.

(14) Place glass in opening exactly in alignment with masking tape markers as primer on glass adheres to butyl sealer immediately on contact.

(15) Press glass firmly to butyl sealer, using hand pressure.

(16) Trim excess primer from glass with razor blade and clean with cloth-dampened in 3M General Purpose Adhesive Cleaner, or equivalent.

(17) Visually inspect butyl sealer-to-glass contact.

NOTE: Dull spots indicate poor contact. Apply hand pressure in these areas to improve seal.

(18) Water test around sealing area.

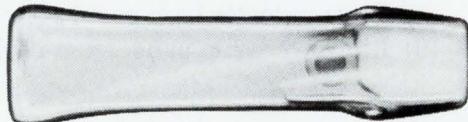
(19) Apply 3M Windo-Weld Resealant, or equivalent, with hand applicator gun to open areas.

(20) Install reveal mouldings by pressing into position over clips in window opening.

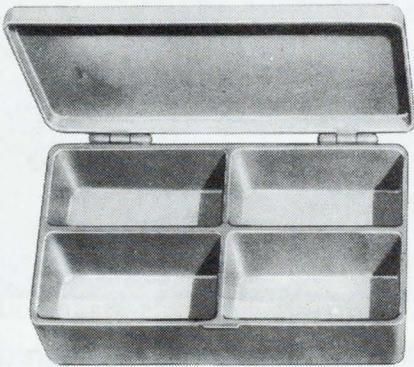
Special Tools



J-2631-01
TRIM PAD
DEPRESSOR



J-21549-1
HANDLE



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

50404

MATADOR COUPE REAR QUARTER

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Specifications	3K-21

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Window System	3K-18

TRIM

Window Regulator Handles

Window regulator handles are attached to the splined shaft of the window regulator with a 5/32-inch Allen head screw. To remove the handle, remove the screw and pull the handle straight off the shaft.

Install the handle with the knob forward, the handle horizontal and the glass all the way up.

Rear Quarter Side Trim Panel

The rear quarter side trim panel consists of an upper and lower section of moulded plastic with a decorative moulding covering the overlapping line.

Removal

- (1) Remove window regulator handle, if equipped.
- (2) Remove rear seat cushion and back as outlined in Chapter 3M.
- (3) Remove door opening aluminum scuff plate.

(4) Pry up trim panel center moulding by inserting a fiber or wooden wedge under bottom edge and remove moulding.

(5) Remove upper trim panel attaching screws.

NOTE: Two screws are located at the top of the B-pillar and two screws at the rear shelf.

(6) Remove center moulding clip attaching screws.

(7) Lift upper trim panel from ledge and B-pillar and remove panel.

(8) Remove lower trim panel attaching screws.

(9) Lift lower trim panel from B-pillar and remove.

Installation

(1) Position lower trim panel and snap front edge over B-pillar pinch weld flange.

(2) Install lower trim panel attaching screws.

(3) Position upper trim panel and snap front edge over B-pillar pinch weld flange.

(4) Install center moulding clips and attaching screws.

(5) Install upper trim panel attaching screws.

(6) Install trim panel center moulding by resting top edge on clips and snapping lower edge over bottom of clips.

(7) Install door opening aluminum scuff plate.

(8) Install rear seat back and cushion as outlined in Chapter 3M.

(9) Install window regulator handle, if equipped.

Roof Extension Trim Panel

Replacement

(1) Remove rear seat cushion and back as outlined in Chapter 3M.

(2) Remove upper quarter trim panel.

(3) Remove roof extension trim panel attaching screws.

(4) Remove panel.

(5) To install, position panel and install attaching screws.

(6) Install upper quarter trim panel.

(7) Install rear seat back and cushion as outlined in Chapter 3M.

WINDOW SYSTEM

Stationary Rear Quarter Window—Barcelona II

Removal

(1) Remove rear seat cushion to expose seat back attaching screws.

(2) Remove seat back attaching screws and raise seat back to disengage from hook retainers and remove seat back.

(3) Remove rear quarter trim panels (fig. 3K-11).



Fig. 3K-11 Rear Quarter Trim Panel—Barcelona II

(4) Remove glass-to-body retaining bracket attaching screws (fig. 3K-12).

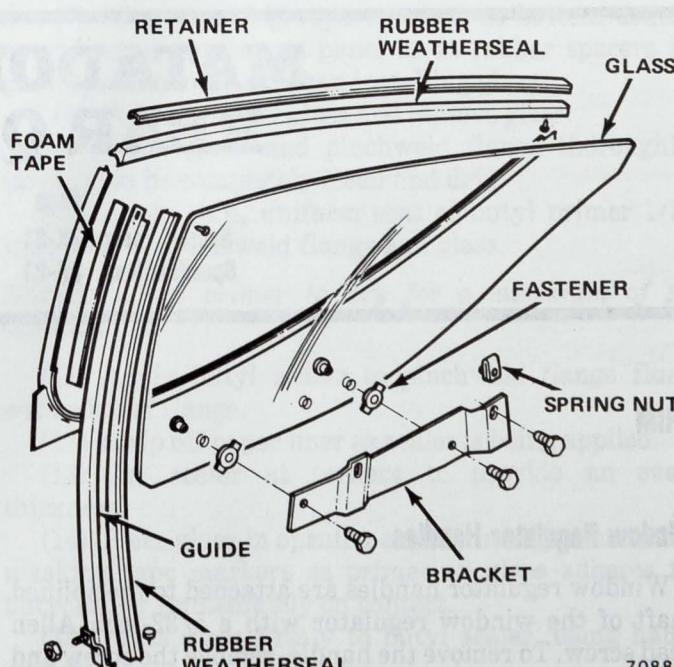


Fig. 3K-12 Stationary Rear Quarter Window—Barcelona II

(5) Lower quarter window glass and remove retainer-to-glass attaching screws using Torx Bit Tool J-25359-02.

NOTE: Carefully pull back roof rail weatherseal to gain access to retainer screws.

(6) Remove upper forward quarter glass guide channel attaching screw. Remove channel-to-uniside nut located near bottom of B-pillar. Remove channel assembly.

(7) Pull glass through window opening to inside of car, angling glass to roll over inner B-pillar extension, as it is removed.

Installation

(1) Install glass through window opening from inside of car.

NOTE: Care must be taken not to loosen mylar quarter window surround moulding.

(2) Position forward quarter glass guide channel and install fasteners.

(3) Position roof rail weatherseal retainer and install attaching screws.

(4) Install glass-to-retainer screws using Torx Bit Tool J-25359-02.

(5) Position quarter window glass in window opening and install retainer-to-body attaching screws.

NOTE: Be careful to avoid contact against the mylar surround moulding.

(6) Clean glass with AMC Glass Cleaner, or equivalent, and install quarter window decal (fig. 3K-13), if not equipped.

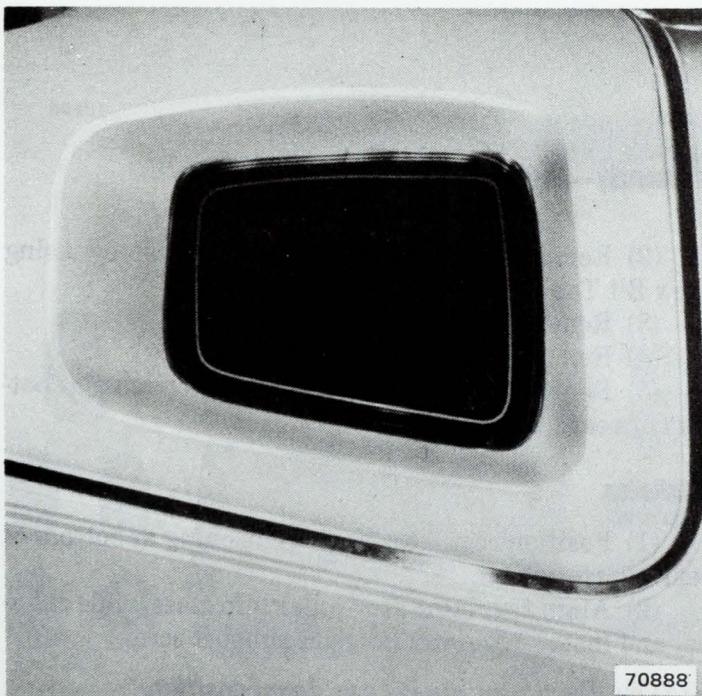


Fig. 3K-13 Rear Quarter Window Decal Installed—Barcelona II

(7) Install rear quarter trim panels.

(8) Install seat back, ensuring positive engagement between shelf panel tabs and seat back loops.

(9) Install seat back attaching screws.

(10) Install seat cushion, checking for secure fit after installation.

Roll-Down Rear Quarter Window

Removal

(1) Remove trim panel and water dam paper.

NOTE: Regulator must be in down position.

(2) Remove regulator-to-glass screw (fig. 3K-14) using Torx Bit Tool J-25359-02.

(3) Remove glass tilt adjusting nut.

(4) Remove regulator screws (fig. 3K-15).

(5) Remove glass through window opening from outside of car.

NOTE: Rear regulator arm roller will slide out of the guide channel as glass is being removed.

Installation

(1) Install glass through window opening from outside of car.

(2) Position regulator arm roller into glass guide channel and install regulator-to-glass support screw using Torx Bit Tool J-25359-02.

NOTE: Regulator must be in down position.

(3) Install glass tilt adjusting screws.

(4) Install regulator screws.

(5) Adjust glass.

(6) Install water dam paper and trim panel.

Adjustment

(1) Check weatherseal retainer alignment.

(2) Remove rear quarter trim panel.

(3) Remove water dam paper.

(4) Loosen screws.

(5) Adjust glass forward and back; tilt to proper position.

(6) Tighten all screws (refer to Torque Specifications).

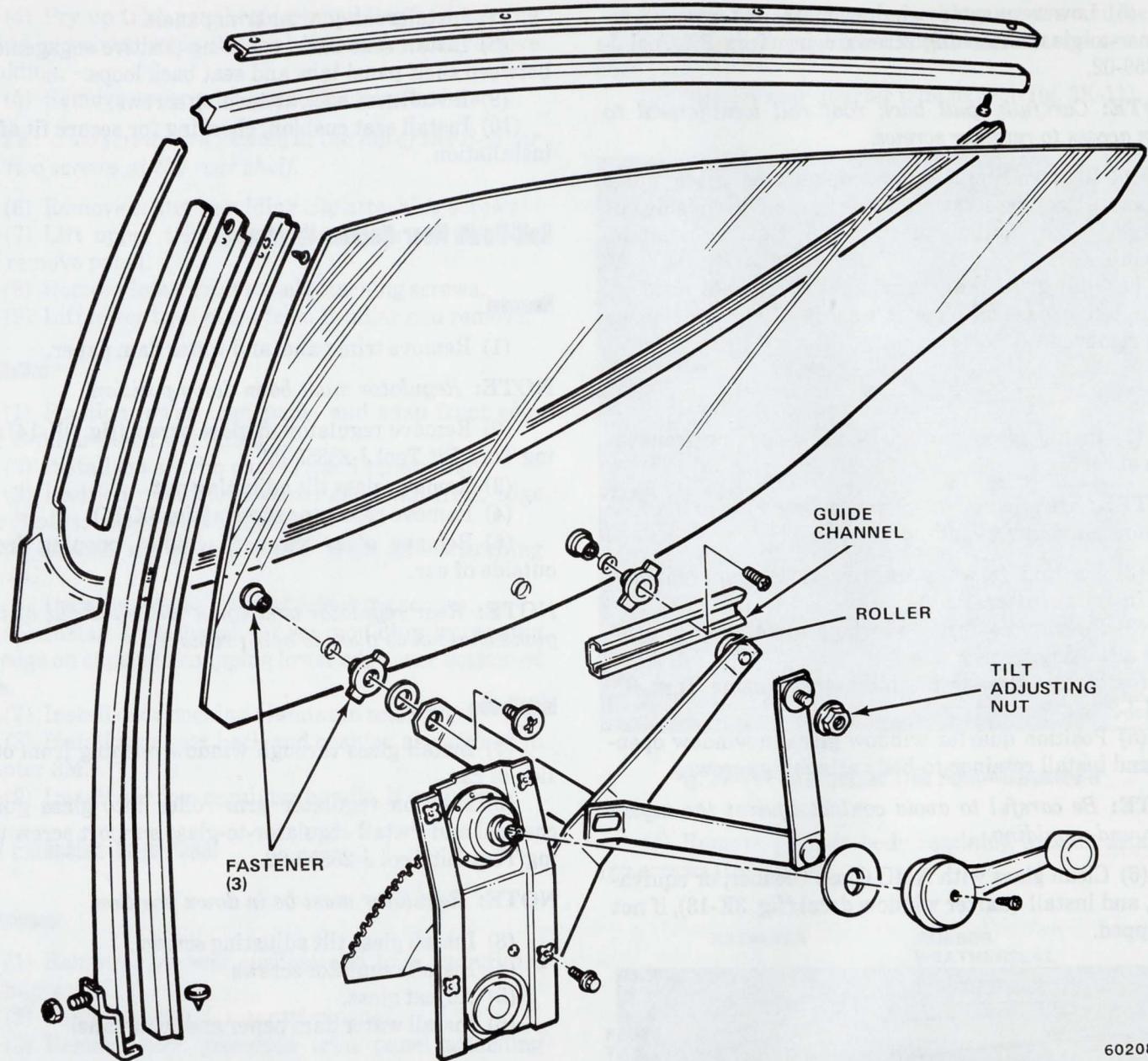
(7) Install water dam paper and rear quarter trim panel.

Window Regulator

Removal

(1) Remove trim panel and water dam paper.

NOTE: Regulator must be in down position.



60208

Fig. 3K-14 Rear Quarter Window Assembly—Matador Coupe

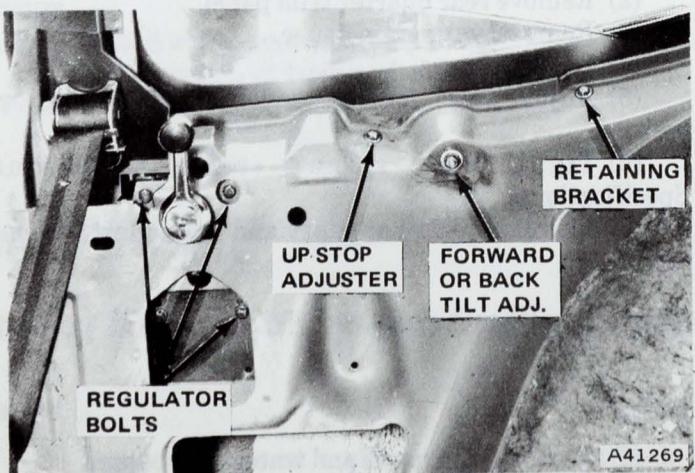


Fig. 3K-15 Rear Quarter Glass Adjustment—Matador Coupe

- (2) Remove regulator-to-glass support screw using Torx Bit Tool J-25359-02.
- (3) Remove glass tilt adjusting nut.
- (4) Remove regulator screws.
- (5) Remove glass regulator through opening at bottom of rear quarter panel.

Installation

- (1) Position regulator through opening at bottom of rear quarter panel.
- (2) Align regulator arm roller into glass guide channel and install regulator-to-glass support screw.

NOTE: Regulator must be in down position.

- (3) Install regulator screws.

- (4) Install glass tilt adjusting nut.
- (5) Adjust glass.
- (6) Install water dam paper and trim panel.

Weatherseal Retainer and Drip Rail Moulding

Replacement

- (1) Pull weatherseal from retainer.
- (2) Remove weatherseal retainer screws.
- (3) Remove weatherseal retainer and drip rail moulding.

NOTE: When removing weatherseal retainer, avoid damaging polyurethane foam sealer installed between

the drip rail moulding, body, and weatherseal retainer. If damaged, replace foam sealer.

- (4) Install drip rail moulding.
- (5) Install weatherseal retainer.
- (6) Install weatherseal retainer screws.
- (7) Align weatherseal retainer and tighten screws.
- (8) Insert weatherseal into retainer.

Alignment

- (1) Pull weatherseal from retainer.
- (2) Loosen weatherseal retainer screws.
- (3) Align weatherseal retainer to desired position.
- (4) Tighten screws.
- (5) Insert weatherseal into retainer.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

Nut — Quarter Window Channel Lower Bracket to Pillar — Matador Coupe
 Nut & Washer Assembly — Window Regulator to Body — Matador Coupe
 Screw — Door Window Regulator Handle — Matador Coupe
 Screw — Quarter Glass Front — Matador Coupe
 Screw — Quarter Window Regulator Assembly — Matador Coupe
 Screw — Quarter Window Slide Channel to Glass — Matador Coupe

METRIC (N·m)		USA (in.lbs.)	
Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
6	5-7	55	40-65
10	9-11	90	80-100
5	4-6	40	30-50
5	4-6	40	30-50
10	9-11	90	80-100
5	4-6	40	30-50

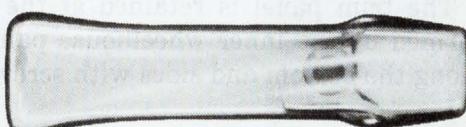
All torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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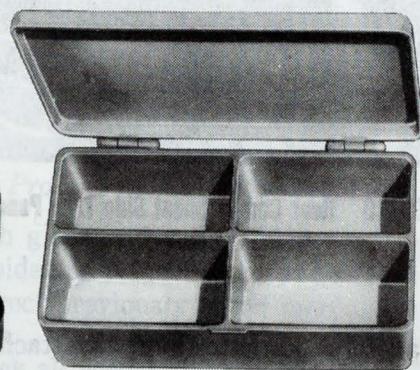
Special Tools



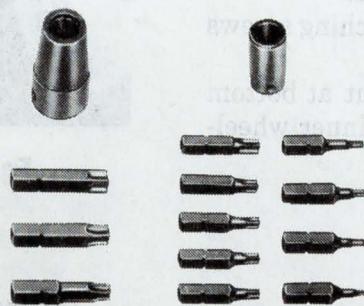
J-2631-01
TRIM PAD
DEPRESSOR



J-21549-1
HANDLE



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

MATADOR SEDAN REAR QUARTER

TRIM

Roof Extension Trim Panel

The roof extension panel is fastened by the rear window finish mouldings and a retainer strip along the front side.

Replacement

- (1) Remove rear seat cushion and back as outlined in Chapter 3M.

- (2) Remove rear window side and corner finish moulding.
- (3) Remove roof extension trim panel.
 - (a) Slide roof extension trim panel to rear and out of front retainer strip.
 - (b) Move panel down and forward to complete removal from car.
- (4) Install panel over retainer strip and into position.
- (5) Install rear window side and corner finish moulding.
- (6) Install rear seat back and cushion as outlined in Chapter 3M.

MATADOR STATION WAGON REAR QUARTER

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TRIM

Rear Wheelhouse Trim Panel

The trim panel is retained at the top by a channel formed by the inner wheelhouse panel and is fastened along the bottom and sides with screws (fig. 3K-16).

Removal

- (1) Fold down rear seat back.
- (2) Remove footman loop from wheelhouse (fig. 3K-16).
- (3) Remove spare tire cover on right side.
- (4) Remove trim panel-to-floorpan attaching screws and trim pieces at each end.
- (5) Press trim panel at top and pull out at bottom until panel slips out of retainer formed by inner wheelhouse panel finish moulding.
- (6) Remove trim panel.

Installation

- (1) Install trim panel in retainer at inner wheelhouse panel finish moulding.

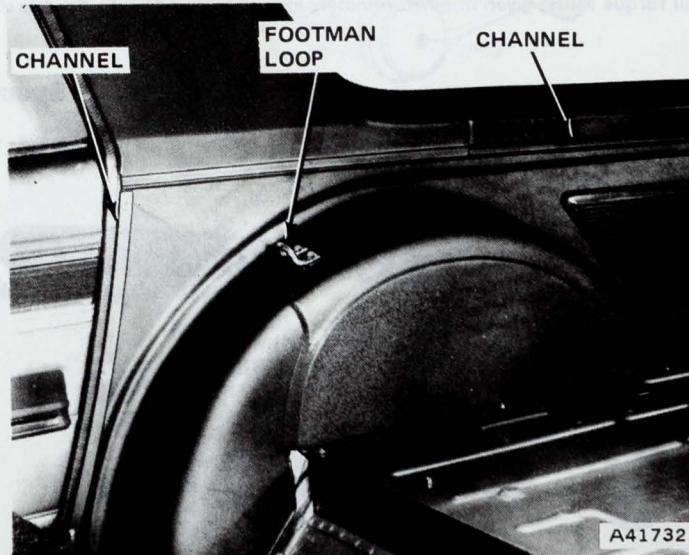


Fig. 3K-16 Rear Compartment Side Trim Panel

- (2) Install trim panel-to-floorpan attaching screws and trim pieces at each end.
- (3) Install footman loop on wheelhouse.
- (4) Install spare tire cover on right side.

WINDOW SYSTEM

Stationary Rear Quarter Window

The rear quarter window glass is set into a rubber channel. The assembly is set in the window opening and retained in place by a rubber lip on the channel which extends over the window opening pinchweld flange.

Removal

(1) Remove side reveal mouldings (before upper and lower mouldings) using Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11 as shown in figure 3K-17.

TOOL
J-21549-1, J-21549-10
or J-21549-11

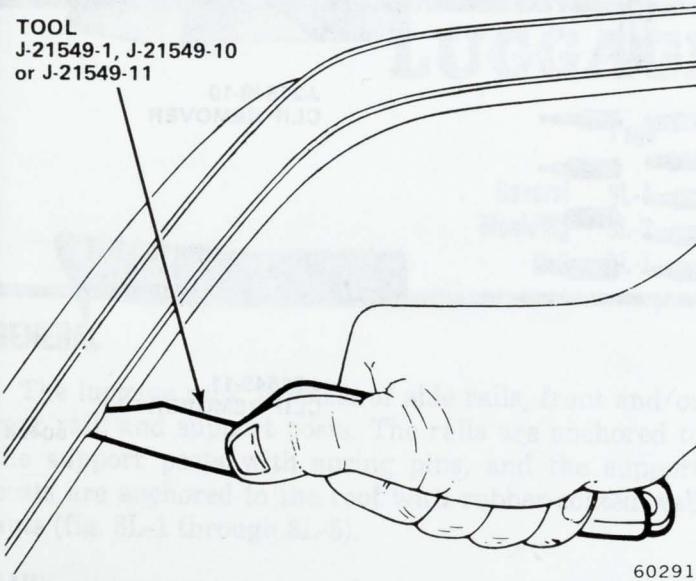


Fig. 3K-17 Reveal Moulding Removal—Typical

(2) Insert tool between moulding and glass parallel with glass.

(3) Pry mouldings from clips with a rolling action.

(4) Loosen rubber channel lip from window opening pinchweld flange.

NOTE: If rubber channel is bonded to the opening pinchweld flange, spray a generous quantity of 3M Release Agent, or equivalent, between rubber channel and body. Allow 2 to 3 minutes for penetration and softening of adhesive. Proceed with glass removal.

(5) Push glass and rubber channel assembly carefully to outside and remove glass and rubber channel.

(6) Correct previously noted moulding or metal-to-glass defects.

(7) Check all reveal moulding clips for proper positioning or replace, if broken.

Installation

(1) Install rubber channel on glass.

NOTE: Rubber channel corners are molded to fit contour edge of glass and can be installed only one way. This places large lip of rubber channel to inside of car.

(2) Insert a cord in lip groove of rubber channel around glass and overlap cord ends at bottom of the glass.

(3) Apply approximately 1/2-inch bead of 3M Auto Bedding and Glazing Compound, or equivalent, to window opening ledge—not on flange.

(4) Set upper end of glass against upper flange and set bottom end in.

(5) Pull cord up to lift lip of rubber channel over flange completely around glass (fig. 3K-18).

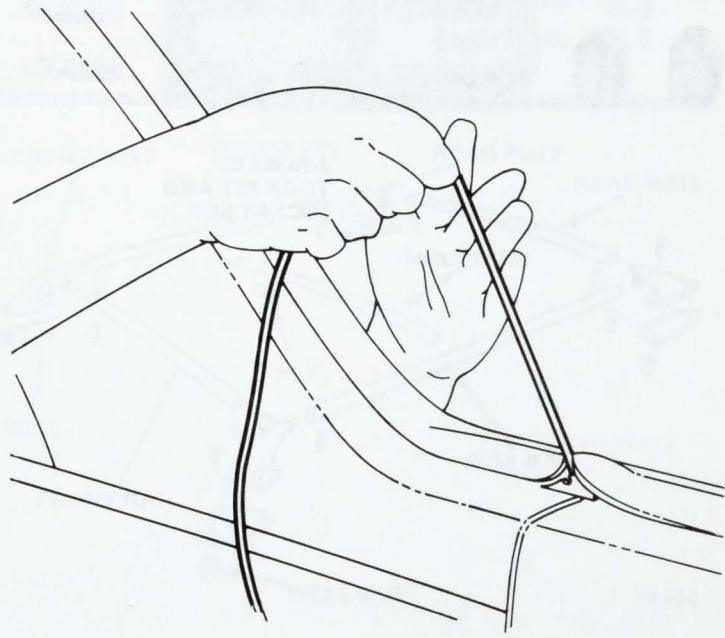


Fig. 3K-18 Rear Quarter Glass Installation

(6) Tap glass with heel of hand to set glass firmly into position.

(7) Apply 3M Windshield Sealer, or equivalent, between channel and glass using a hand applicator gun with small nozzle.

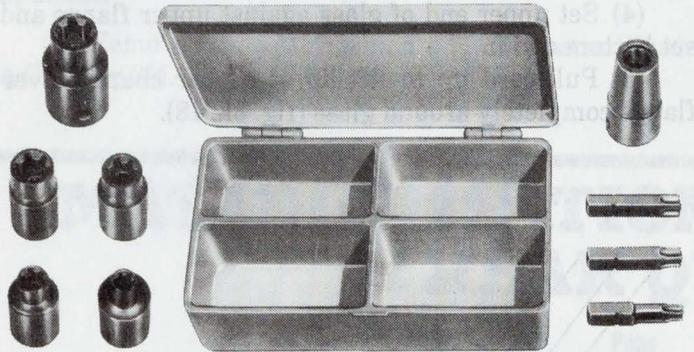
(8) Wipe off surplus sealer.

(9) Press reveal moulding into position over clips in window opening.

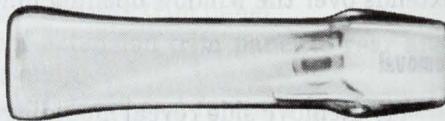
Special Tools



J-2631-01
TRIM PAD
DEPRESS



J-25359-02
TORX BIT AND
SOCKET SET



J-21549-1
HANDLE



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

50404

LUGGAGE RACKS- REAR CARGO COVER

3L

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LUGGAGE RACKS

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Moulding	3L-2
Rail	3L-1
	Specifications
	3L-3
	Special Tools
	3L-2

GENERAL

The luggage rack, consists of side rails, front and/or rear rail, and support posts. The rails are anchored to the support posts with spring pins, and the support posts are anchored to the roof with rubber-coated well nuts (fig. 3L-1 through 3L-5).

RAIL

Removal

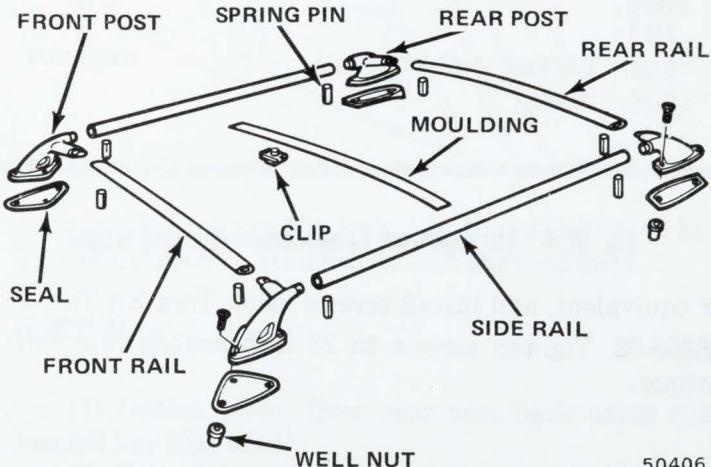
- (1) Remove attaching screws using Torx Bit Tool J-25359-02 and support post(s) from roof.

NOTE: Rails are attached to the supports by spring pins which have been inserted from the bottom to reduce corrosion. These pins can be removed by drilling through the top of the rail to locate the spring pin. The spring pin can then be tapped out with a pin punch.

- (2) Remove rail.

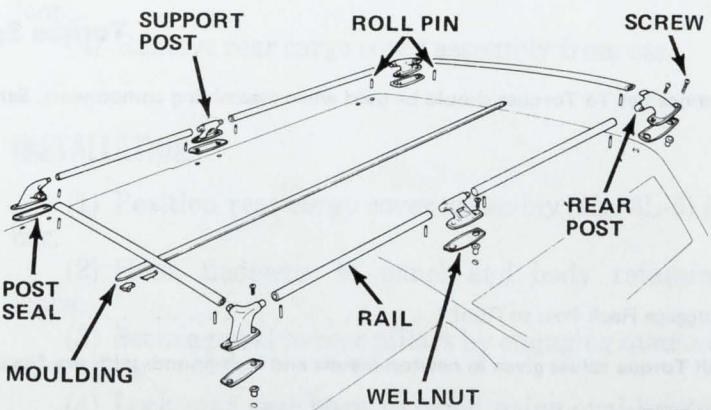
Installation

- (1) Position rail on support post(s).
- (2) Insert spring pins through bottom of rail and press in until bottomed into hole.
- (3) Place luggage rack post seal and support post on roof, engaging end of rail over support post.
- (4) Coat screw threads with 3M Drip-Check Sealer,



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Fig. 3L-1 Luggage Rack Components—Pacer Hatchback



70380

Fig. 3L-2 Luggage Rack Components—Pacer Wagon

3L-2 LUGGAGE RACKS—REAR CARGO COVER

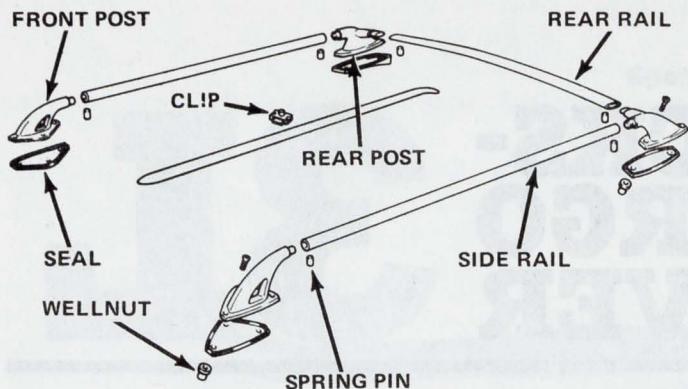


Fig. 3L-3 Luggage Rack Components—Gremlin

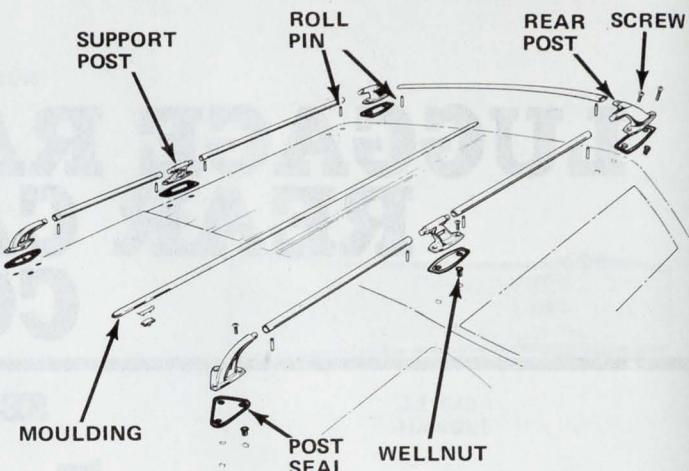


Fig. 3L-5 Luggage Rack Components—Matador Station Wagon

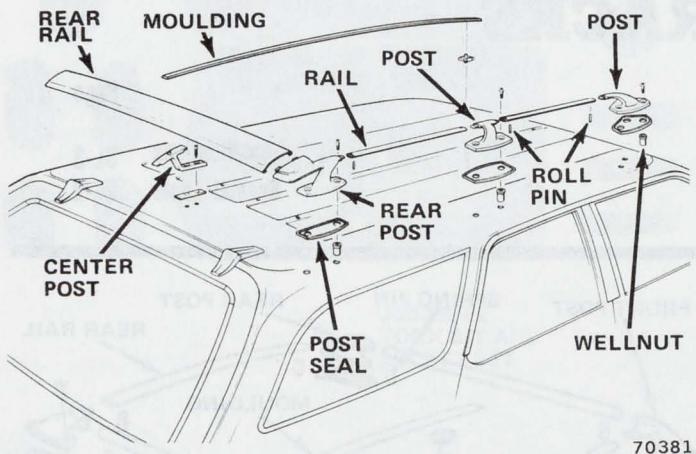


Fig. 3L-4 Luggage Rack Components—Concord Wagon

or equivalent, and install screws using Torx Bit Tool J-25359-02. Tighten screws to 28 inch-pounds (3.2 Nm) torque.

MOULDING

The mouldings are anchored to the roof with plastic clips.

The clips are inserted into holes in the roof and the anchoring plugs tapped down flush with the top of the each clip.

Removal

(1) Carefully pry moulding up from roof using a wooden or fiber stick.

(2) Remove moulding.

Installation

(1) Replace any damaged clips.

(2) Hook one side of moulding onto clip and snap opposite side into place.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

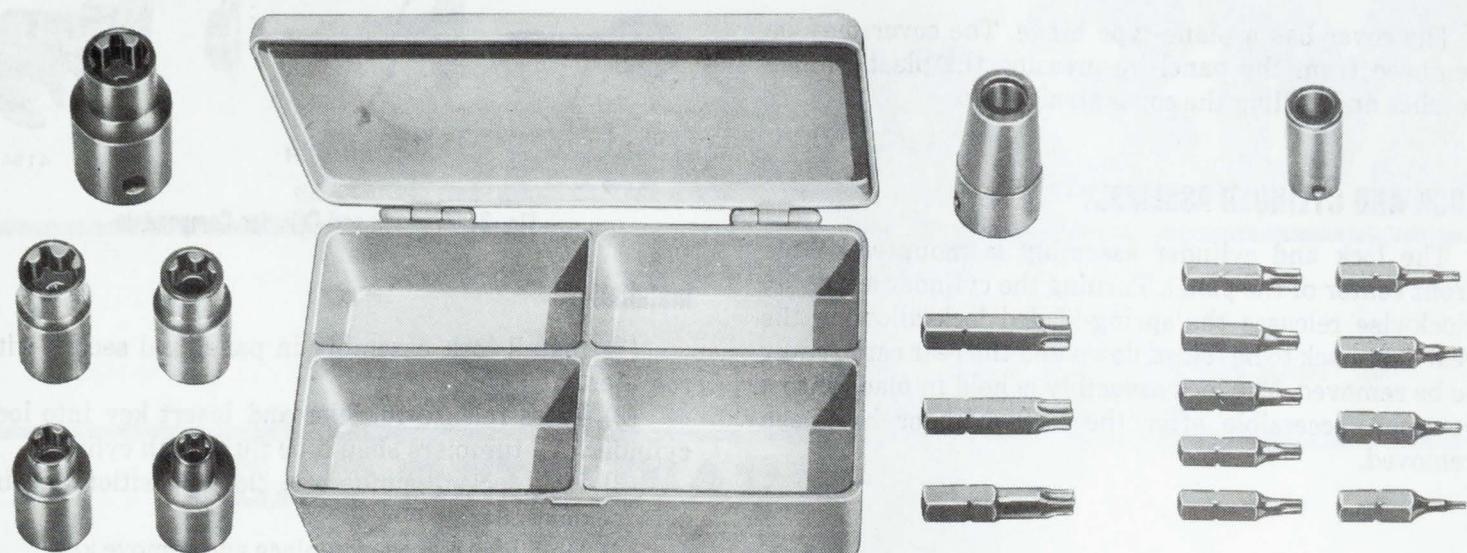
	Metric (N·m)	USA (in.lbs.)
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Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
-----------------------	-----------------------	-----------------------	-----------------------

Luggage Rack Post to Roof 3 2-5 28 15-40

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

Special Tools



J-25359-02
TORX BIT AND SOCKET SET

70119

REAR CARGO COVER

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General	3L-3
Installation	3L-3

	Page
Lock and Cylinder Assembly	3L-4
Removal	3L-3

GENERAL

The Pacer rear cargo cover (fig. 3L-6) is molded of a hard plastic. The cover is attached to the body by quarter-turn studs and tiedowns. The hinged rear seat back is locked to the cover by a glove box type lock and

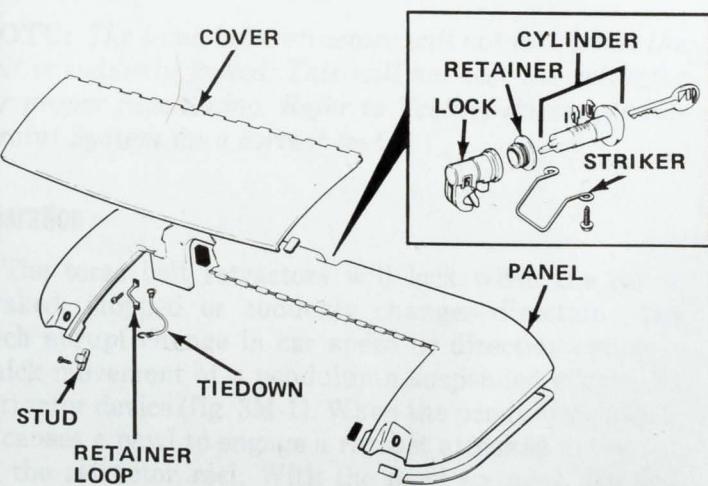
cylinder. To release the lock, use the oval-headed key. The lock striker is attached to the rear seat back.

REMOVAL

- (1) Unlock panel from rear seat back using oval-headed key (fig. 3L-6).
- (2) Release quarter-turn studs attaching panel to rear pillars.
- (3) Unhook tiedowns attaching panel to retaining loops.
- (4) Remove rear cargo cover assembly from car.

INSTALLATION

- (1) Position rear cargo cover assembly (fig. 3L-6) in car.
- (2) Hook tiedowns to panel and body retaining loops.
- (3) Secure panel to rear pillars by engaging quarter-turn studs.
- (4) Lock rear seat back to panel using oval-headed key.



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Fig. 3L-6 Rear Cargo Cover Assembly

3L-4 LUGGAGE RACKS—REAR CARGO COVER

COVER

The cover has a piano-type hinge. The cover may be removed from the panel by pressing the plastic hinge catches and pulling the cover straight up.

LOCK AND CYLINDER ASSEMBLY

The lock and cylinder assembly is mounted to the front center of the panel. Turning the cylinder assembly clockwise releases the spring-loaded lock allowing the rear seat back to be folded down and the rear cargo cover to be removed. The lock assembly is held in place with a retainer, accessible after the lock cylinder has been removed.

Removal

- (1) Unlock panel from rear seat back using oval-headed key and fold rear seat back down.
- (2) Manually set lock to simulate a closed position.
- (3) Insert a firm wire through opening in lock and press down on retainer tumbler (fig. 3L-7).
- (4) Continue to apply pressure and insert key. Lock cylinder can then be removed.
- (5) Remove retainer securing lock assembly to panel. Remove lock assembly.

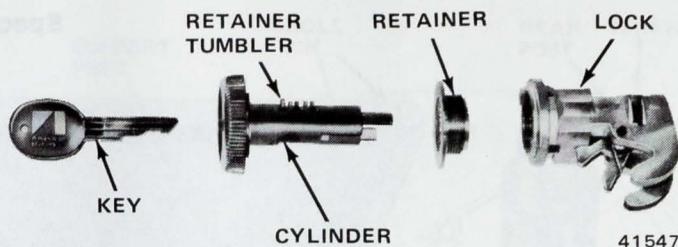


Fig. 3L-7 Lock and Cylinder Components

Installation

- (1) Install lock assembly in panel and secure with retainer.
- (2) Press release tumbler and insert key into lock cylinder. All tumblers should be flush with cylinder.
- (3) Hold lock to simulate a closed position and insert lock cylinder.
- (4) Hold lock cylinder in place and remove key.
- (5) Turn lock cylinder slightly to set retainer tumbler.

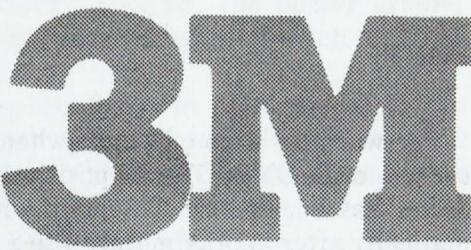
Lubrication

To lubricate the lock and striker, apply a light coat of Lubriplate, or equivalent, to the lock and striker.

Cylinder Coding

For cylinder coding, refer to Chapter 3J.

SEAT ASSEMBLIES



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Rear Seats	3M-15		

SEAT BELT WARNING SYSTEM

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Seat Belt Warning System	3M-2		

PASSENGER RESTRAINT SYSTEM

General

The passenger restraint system combines the lap and torso belts into a single belt system at each front outboard seating position. The lap belt portion uses automatic-locking and self-adjusting retractors. The torso belt portion uses deceleration (or acceleration) sensitive retractors mounted in or just behind the B-pillars. With the belt fastened, the wearer is permitted to move his upper torso freely within the limits of torso belt length, during most normal driving conditions.

NOTE: *The torso belt retractors will not lock when the belt is suddenly jerked. This will not test the retractor for proper functioning. Refer to Testing Passenger Restraint System for a correct test.*

Operation

The torso belt retractors will lock when the car is braked, stopped or suddenly changes direction. Any such abrupt change in car speed or direction causes a quick movement of a pendulum suspended within the retractor device (fig. 3M-1). When the pendulum swings, it causes a pawl to engage a ratchet attached to the end of the retractor reel. With the pawl engaged, the reel cannot turn, belt travel is stopped, and torso motion is restrained.

Testing Passenger Restraint System

To test the retractors for proper functioning, it is necessary to drive the car. Buckle up and drive about 10 to 15 mph. While holding the passenger side torso belt partially extended with the right hand, apply the brakes firmly and at the same time pull on the passenger side torso belt. During the stop both retractors should lock, restraining forward movement of the driver's torso and preventing further unreeling of the passenger side torso belt.

If either the left or right retractor fails to lock during the test, that entire unit must be replaced.

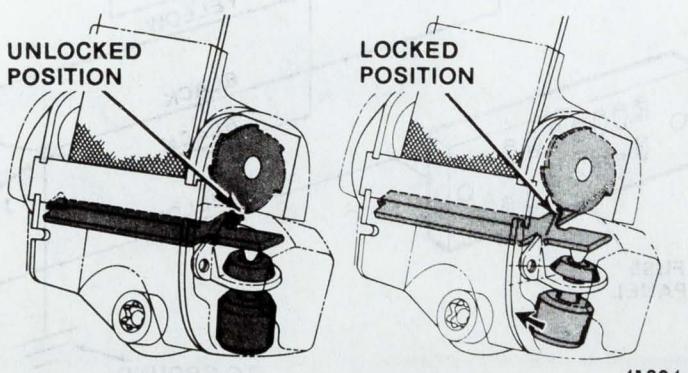


Fig. 3M-1 Torso Belt Inertia Retractor

SEAT BELT WARNING SYSTEM

General

The warning lamp will light whenever the ignition is turned to the ON or START position, whether or not the driver has buckled up. The lamp will then go off automatically after approximately 4 to 8 seconds.

The warning buzzer will not sound if the driver buckles up before the ignition is turned to the ON or START position. However, if the driver does not buckle up, the buzzer will sound for 4 to 8 seconds and then go off

automatically. In either case, the lamp will light and then go off after 4 to 8 seconds, since it works independently of the buzzer.

Operation

The system is activated when the ignition is turned to the ON or START position. Current is applied to the thermal timer by the ignition switch through the fuse panel (fig. 3M-2). The thermal timer passes current to the warning buzzer and warning lamp.

When the ignition switch is turned to ON or START position, the warning lamp lights and the bimetal in the

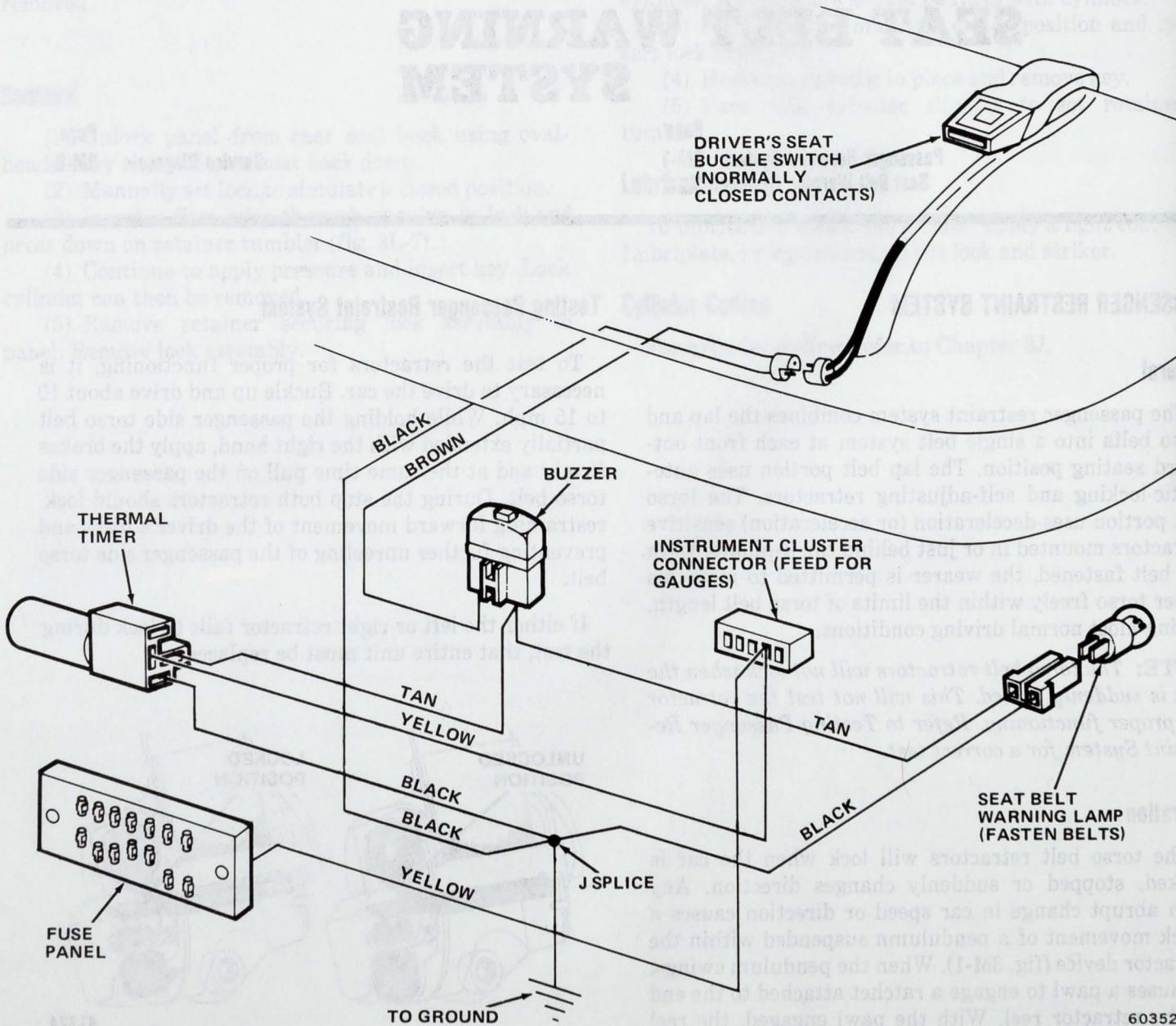


Fig. 3M-2 Seat Belt Warning System

thermal timer begins to heat. The thermal timer also passes current to the warning buzzer. However, the ground circuit for the buzzer is controlled by the driver's seat buckle switch. The driver's seat buckle switch has contacts which are normally closed. The contacts are opened when the lap-torso seat belt connector is inserted into the driver's buckle. If the driver has **not** buckled when the ignition switch is turned to ON or START, the buzzer ground circuit is complete and the buzzer sounds.

If the driver has buckled when the ignition switch is turned to ON or START position, the buzzer ground circuit is open at the driver's buckle switch and the buzzer does not sound.

The thermal timer continues to pass current to the warning lamp and buzzer from 4 to 8 seconds until the bimetal heats, expands, and opens the feed circuit from the fuse panel. Then, no current is passed to the warning lamp and buzzer and both are inoperative.

Service Diagnosis

Condition	Possible Cause	Correction
BUZZER AND LAMP ARE INOPERATIVE	<ul style="list-style-type: none"> (1) Fuse blown. (2) Thermal timer defective. (3) Open in yellow wire between ignition switch and thermal timer. (4) Open in black wire between seat belt warning harness connector and ground. (5) Ignition switch defective. 	<ul style="list-style-type: none"> (1) Replace fuse. (2) Replace thermal timer. (3) Repair as required. (4) Repair as required. (5) Replace ignition switch.
BUZZER INOPERATIVE (LAMP OPERATES NORMALLY)	<ul style="list-style-type: none"> (1) Buzzer defective. (2) Driver's seat buckle switch defective. (3) Open in brown wire between buzzer and driver's seat buckle switch wire connector. (4) Open in black wire from driver's seat buckle switch to seat belt warning harness connector. 	<ul style="list-style-type: none"> (1) Replace buzzer. (2) Replace buckle switch. (3) Repair as required. (4) Repair as required.
LAMP INOPERATIVE (BUZZER OPERATES NORMALLY)	<ul style="list-style-type: none"> (1) Lamp bulb burned out. (2) Open in tan wire between lamp and buzzer connector. (3) Open white wire between lamp and thermal timer. 	<ul style="list-style-type: none"> (1) Replace bulb. (2) Repair as required. (3) Repair as required.

FRONT SEATS

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GENERAL

The following types of front seat assemblies are available:

- Bench seats with full cushion, nonreclining full back and adjustable headrests.
- Bench seats with full cushion, nonreclining split back, and adjustable or integral headrests.
- Individual reclining seats with adjustable headrests.
- Bucket seats with integral headrests. All bucket seats are nonreclining.

All front seat backs used on 2-door models are equipped with a manually released positive lock to prevent forward tilt.

The full seat back is attached at each side to the seat bottom frame assembly with a shoulder bolt and welded stud secured with a retaining pin.

The Pacer-Gremlin-Concord split seat back on 2-door models is attached with shoulder bolts at the outer pivot, and pivots on a pin in a tubular center post.

The Matador Coupe split seat back with solid seat cushion pivots in the center on a pin in the seat back which rides in a bushing of a tubular post welded to the seat bottom frame. The outer arm of the seat back pivots on a stud welded to the lower seat frame.

The individual and bucket seats consist of a right and left seat back frame and spring assembly and right and left seat bottom frame and spring assembly.

All seat cushion spring assemblies are welded to the seat bottom frame and are not removable. Seat back springs on Concord with reclining seats are welded to the seat back frame. The seat back spring and pad on Matadors with reclining seats are one unit held in place to the seat back frame by the upholstery.

Except for bucket seats, all Matador seat back and bottom frame assemblies contain coil springs.

Except for bucket seats, the Gremlin-Concord-AMX seat back and bottom frame assemblies are formed wire construction.

WARNING: Seat attaching parts, such as seat adjusting slide-to-floor screws, washers, and nuts; seat adjusting slide-to-bottom frame nuts or screws, seat back forward tilt lock components; and rear seat back-to-wheelhouse retainers, are important attaching parts in that they affect the performance of vital safety com-

ponents and assemblies. Replace each part with the same part number or with an equivalent part if replacement becomes necessary; do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during installation to assure proper retention of these components and systems.

FRONT SEAT ASSEMBLY—PACER

Removal

The seats are removed by unfastening the slides from the floorpan.

- (1) Move seat assembly to the full forward position on the adjusting slides to gain access to the rear screws.
- (2) Remove screws attaching adjusting slides to floorpan, using Torx Bit Tool J-25359-02, if required.
- (3) Remove seat assembly from car.

Installation

- (1) Prior to installing seat assembly, check that both adjusting slides are in the same relative position.
- (2) Position seat assembly in car.
- (3) Install screws attaching adjusting slides to floorpan. Tighten screws to 175 inch-pounds (19.8 Nm) torque.
- (4) Check seat adjusting slides for proper operation.

FRONT SEAT ASSEMBLY—GREMLIN-CONCORD-AMX

Removal

The front seats are mounted to the seat adjusting slides which are attached to the floorpan with washers, hex nuts, and screws. The seats are removed by unfastening the slides from the floorpan.

- (1) Where front center seat belts go through the seat assembly, remove seat belt-to-floorpan shoulder bolts using Torx Bit Tool J-25359-02.
- (2) Disconnect seat belt wiring harness, if equipped.
- (3) Move seat assembly to the full rear position on the adjusting slides to gain access to the front screws (fig. 3M-3). Remove front attaching screws using Torx Bit Tool J-25359-02.

- (4) Remove nuts and washers attaching adjusting slides to floorpan from underneath.
- (5) Remove seat assembly from car.

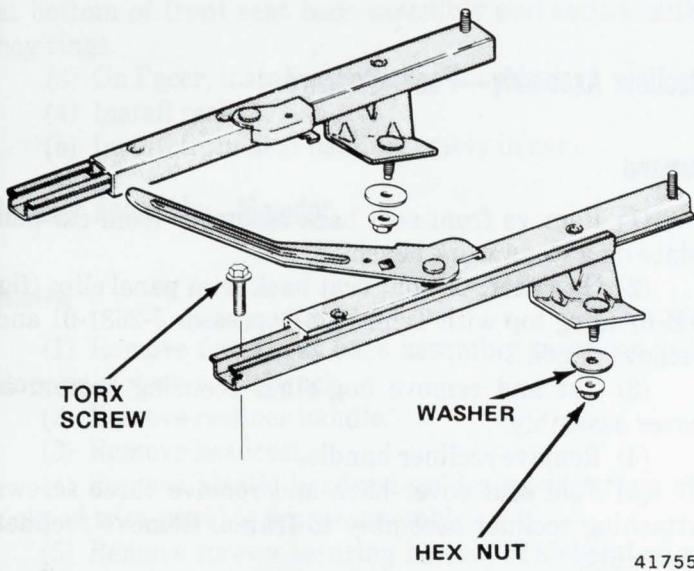


Fig. 3M-3 Front Seat Adjusting Slides—Gremlin-Concord-AMX

Installation

- (1) Prior to installing seat assembly, check that both adjusting slides are in the same relative position.
- (2) Position seat assembly in car.
- (3) Install front screws attaching adjusting slides to floorpan using Torx Bit Tool J-25359-02.
- (4) Install washers and nuts attaching adjusting slides to floorpan. Tighten screws and nuts to 175 inch-pounds (19.8 Nm) torque.
- (5) If seat belts were disconnected during removal, position seat belts on floorpan and install shoulder bolts using Torx Bit Tool J-25359-02. Tighten bolts to 30 foot-pounds (40.6 Nm) torque.
- (6) Connect seat belt wiring harness, if equipped.
- (7) Check seat adjusting slides for proper operation.

FRONT SEAT ASSEMBLY—MATADOR

Removal

The seats are removed by unfastening the slides from the floorpan.

- (1) Move seat assembly to the full forward position on the adjusting slides to gain access to the rear screws.
- (2) Remove screws attaching adjusting slides to floorpan.
- (3) Remove seat assembly from car.

Installation

- (1) Prior to installing seat assembly, check that both adjusting slides are in the same relative position.
- (2) Position seat assembly in car.
- (3) Install screws attaching adjusting slides to floorpan. Tighten screws to 175 inch-pounds (19.8 Nm) torque.
- (4) Check seat adjusting slides for proper operation.

FORWARD TILT RECLINING SEAT BACKS

The adjusting handle of the reclining mechanism also serves as the forward tilt lock release handle.

Reclining Seat Back Operation

Reclining seat backs are available with individual seats on Pacer-Concord-Matador only.

The variable-gear type reclining seat back mechanism contains a sector gear. This gear holds the seat back at any position from upright to a fully lowered position.

Push the handle up and rearward and recline the seat to the desired position. Release the handle and the seat back will hold at that position.

Push handle up and rearward to allow seat back to return to upright position.

The reclining mechanism will be serviced as a complete assembly only. Do not attempt to disassemble the unit.

The reclining option is not available on bucket seats.

Reclining Seat Back Control Handle

The reclining seat back control handle is installed on the shaft and anchored with a chrome machine screw which is inserted through the handle and into the end of the shaft. Tighten screw to 40 inch-pounds (4.5 Nm) torque.

To prevent interference with the seat belt holster, the handle must be positioned horizontally.

Reclining Front Seat Back

Removal

WARNING: Before disassembling the seat back from the seat cushion, release the recliner handle and tilt the seat full forward to relieve the spring tension. If this is not done and the seat back is removed, the counterbalance spring could be tripped and cause bodily injury.

- (1) Remove front seat side wing trim panel.
- (2) Remove three screws attaching recliner assembly to seat back outer hinge using Torx Bit Tool J-25359-02 as shown in figure 3M-4.

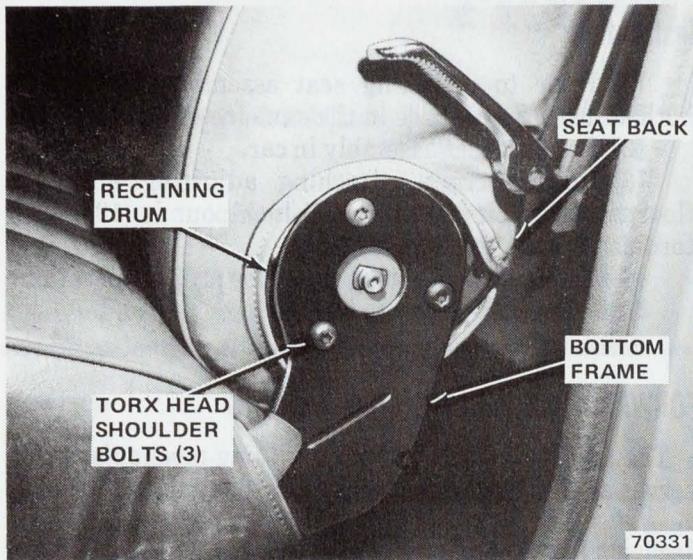


Fig. 3M-4 Tilt Lock Mechanism

(3) Insert a screwdriver between the bottom frame and recliner and disengage the seat back from the bottom frame (fig. 3M-5).

(4) Disengage center hinge pivot by pulling the seat back to the outside.

(5) Remove seat back from car.

Installation

(1) Position seat back in car and engage center hinge pivot.

(2) Position recliner drum on bottom frame and engage seat back in bottom frame. Tilt seat back to full

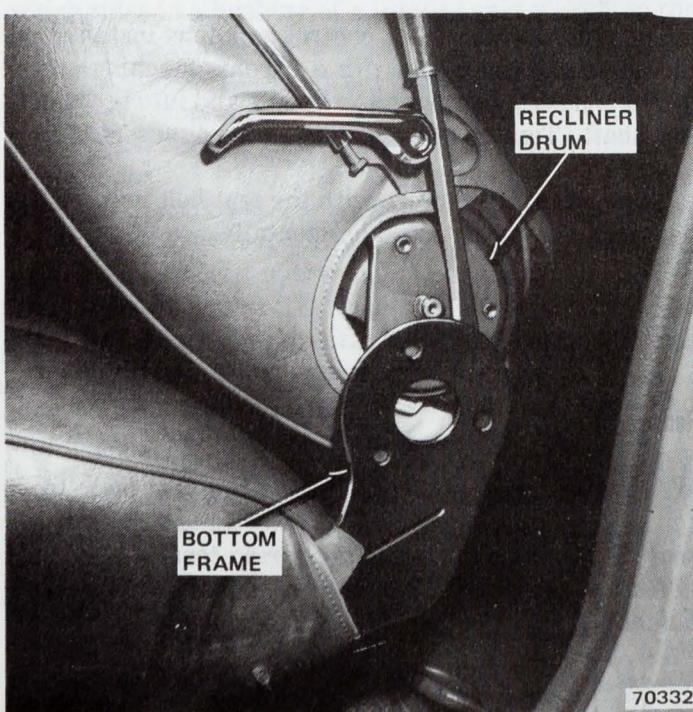


Fig. 3M-5 Reclining Front Seat Back Removal

forward position (flat on seat cushion).

(3) Install three screws attaching drum assembly to seat outer hinge bracket using Torx Bit Tool J-25359-02. Tighten screws to 60 inch-pounds (6.7 Nm) torque.

(4) Install front seat side wing trim panel.

Recliner Assembly—Pacer-Concord

Removal

(1) Remove front seat back assembly from car and place on a clean work bench.

(2) On Pacer, pry out seat back trim panel clips (fig. 3M-6) along top with Trim Pad Depressor J-2631-01 and remove panel.

(3) Cut and remove hog rings securing bottom of cover assembly.

(4) Remove recliner handle.

(5) Fold seat cover back and remove three screws attaching recliner assembly to frame. Remove recliner assembly.



Fig. 3M-6 Seat Back Trim Panel Removal—Pacer

Installation

(1) Position recliner assembly in seat frame and secure with three screws. Tighten screws to 60 inch-pounds (6.7 Nm) torque.

(2) Pull front and back of cover assembly together at bottom of front seat back assembly and secure with hog rings.

(3) On Pacer, install seat back trim panel.

(4) Install recliner handle.

(5) Install front seat back assembly in car.

Recliner Assembly—Matador**Removal**

(1) Remove front seat back assembly from car and place on a clean work bench.

(2) Remove recliner handle.

(3) Remove headrest.

(4) Remove plastic headrest guides securing top of kickpad trim panel to frame assembly.

(5) Remove screws securing bottom of kickpad trim panel to frame assembly.

(6) Remove fasteners securing edges of kickpad trim panel to frame assembly. Remove kickpad trim panel.

(7) Remove screws securing recliner assembly to frame. Remove recliner assembly.

Installation

(1) Position recliner assembly in frame and secure with screws. Tighten screws to 60 inch-pounds (6.8 Nm) torque.

(2) Position kickpad trim panel on frame assembly and secure fasteners and screws.

(3) Secure top kickpad trim panel to frame assembly with plastic headrest guides. Install headrest.

(4) Install recliner handle.

(5) Install front seat back assembly in car.

NONRECLINING SPLIT BENCH SEATS**Tilt Lock Assembly—Pacer**

The tilt lock assembly on a nonreclining seat back is attached to the lower portion of the hinge bracket above the seat back outer hinge pivot. A spring-loaded latch is attached to the seat back and engages a shoulder bolt on the bottom frame to prevent forward tilt (fig. 3M-7).

Removal

(1) Remove front seat side wing trim panel and tilt seat back forward.

(2) Remove nuts attaching front seat forward tilt lock to hockey stick. Remove tilt lock.

(3) Remove shoulder bolt and shims using Torx Bit Tool J-25359-02.

Installation

(1) Tilt seat back forward.

(2) Install shoulder bolt and shims using Torx Bit Tool J-25359-02. Tighten bolt to 40 foot-pounds (54.2 Nm) torque.

(3) Position tilt lock on inside of hockey stick and secure with nuts. Tighten screws to 110 inch-pounds (12.4 Nm) torque.

NOTE: *Tilt lock latch must engage shank of shoulder bolt. If latch does not fully engage shank, insert additional shims between shoulder bolt and bottom frame.*

(4) Install front seat side wing trim panel.

Tilt Lock Assembly—Gremlin-Concord

On 2-door models, a spring-loaded locking pawl (attached to the seat back frame with a pivot and retaining ring) engages a notch in the seat bottom frame outer hinge bracket to lock the seat back in the upright position.

Removal

(1) Remove side wing panel.

(2) Remove seat bottom frame-to-seat back shoulder bolt using Torx Bit Tool J-25359-02.

(3) Remove tilt lock handle.

(4) Remove hog rings from upholstery at bottom of seat back.

(5) Fold upholstery back to gain access to tilt lock assembly components.

(6) Remove tilt lock assembly components.

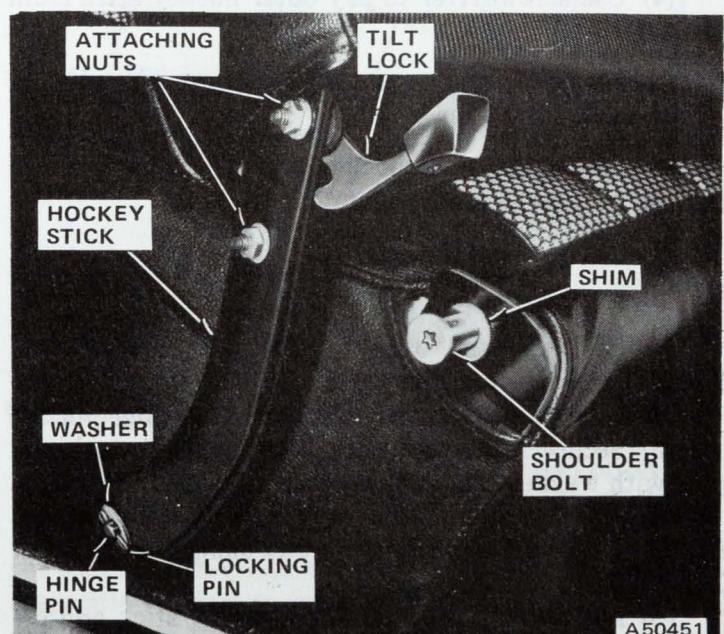


Fig. 3M-7 Split Bench Tilt Lock—Pacer

Installation

- (1) Position and install tilt lock assembly components into seat back.
- (2) Position upholstery and install new hog rings.
- (3) Install tilt lock handle.
- (4) Install seat bottom frame-to-seat back shoulder bolt using Torx Bit Tool J-25359-02. Tighten bolt to 50 foot-pounds (54.2 Nm) torque.
- (5) Install side wing panel.

BUCKET SEATS

Bucket seat backs consist of a flat wire top rim and stamped frame assembly enclosed in molded foam and covered with envelope-type seat upholstery. A spring-loaded, hook-shaped lock at the center bottom of the seat back engages a striker in the seat bottom frame to lock the seat back in the upright position.

To release tilt lock, operate the release handle located at the lower outboard corner of the seat back.

Seat Back**Removal**

- (1) Remove tilt stop cable screw from seat back hockey stick (passenger seat only) using Torx Bit Tool J-25359-02, if equipped (fig. 3M-8).

NOTE: The tilt stop cable is installed on the outboard side of the Gremlin-Concord-AMX passenger seat to prevent the seat back from striking the instrument panel.

- (2) Remove inner and outer side wing panels using Torx Bit Tool J-25359-02.
- (3) Remove inner and outer locking pins and washers from hinge pin.
- (4) Use screwdriver to pry outer hockey stick from hinge pin.

NOTE: Wrap or pad screwdriver to protect painted surfaces and upholstery.

- (5) Disengage inner hockey stick from inner hinge pin and remove seat back from car.

Installation

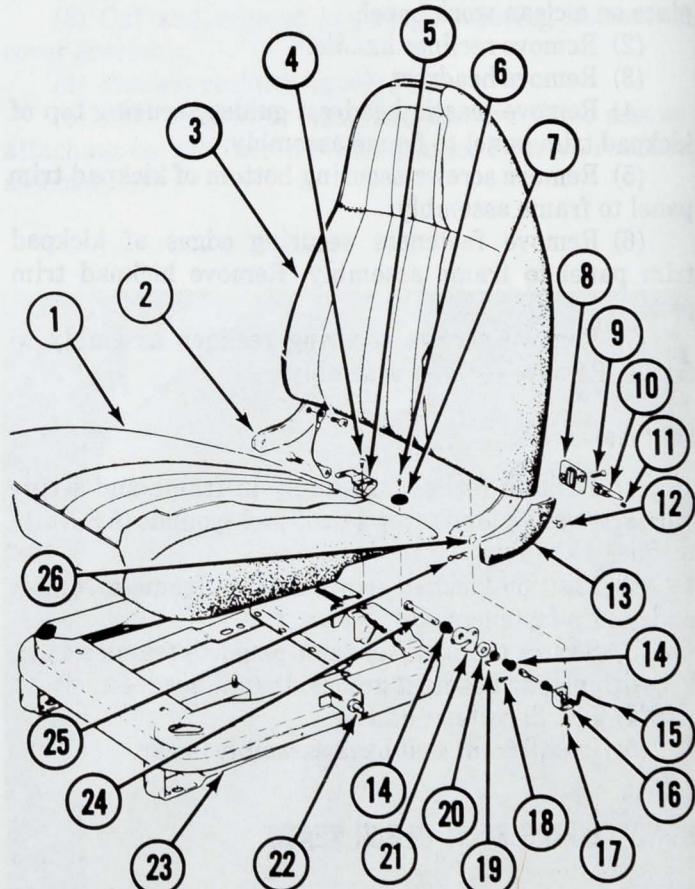
- (1) Position seat back in car and engage inner hockey stick on inner hinge pin.
- (2) Engage outer hockey stick on outer hinge pin.
- (3) Secure inner and outer hockey sticks to hinge pins with washers and locking pins.
- (4) Position inner and outer side wing panels on hockey sticks and secure with screws using Torx Bit Tool J-25359-02.
- (5) Position tilt stop cable on hockey stick and secure with screw using Torx Bit Tool J-25359-02, if equipped.

Tilt Lock Assembly**Removal**

- (1) Tilt seat back forward and remove upholstery hog rings along bottom.

- (2) Fold upholstery forward to gain access to the lock assembly.

NOTE: Bucket seat backs on some models are equipped with zippers for easy upholstery removal and installation.



1. BOTTOM CUSHION
2. HOCKEY STICK
3. SEAT BACK
4. SCREW
5. TILT COVER
6. SCREW
7. NYLON STOP
8. HOUSING COVER
9. SCREW
10. RELEASE HANDLE
11. SETSCREW
12. SCREW
13. SIDEWING PANEL

14. ANTI-RATTLE BUSHING
15. ROD
16. BRACKET
17. SCREW
18. SCREW
19. SPRING
20. WASHER
21. TILT LOCK
22. HINGE PIN
23. BOTTOM FRAME
24. TILT LOCKPIN
25. LOCKING PIN
26. WASHER

Fig. 3M-8 Bucket Seat Components

- (3) Remove tilt lock bezel and release handle.
- (4) Remove screw attaching release handle rod to tilt lockpin.
- (5) Remove screw attaching release rod bracket to seat frame and remove bracket and rod.
- (6) Remove 2 locking pins from tilt lockpin.
- (7) Disconnect spring from tilt lock and push tilt lockpin through holes. Remove tilt lockpin, tilt lock and spring from seat.

Installation

- (1) Position and install tilt lock assembly components into seat back in the reverse order that they were removed and as shown in figure 3M-8.
- (2) Install tilt lock release handle and bezel. Tighten tilt lock handle set screw to 18 inch-pounds (2.0 Nm) torque.
- (3) Position upholstery and install new hog rings.
- (4) Secure seat back in lock position.

FRONT SEAT ADJUSTING SLIDES

The front seat adjusting slide consists of two pieces of formed steel channel incorporating a strip of spring steel to provide a retainer for the ball bearings.

The top and bottom channels are flanged and interlocked to form a union which cages the ball bearings and retainers with sufficient tension to provide smooth, rattle-free operation.

The lower channel of each seat adjusting slide is notched at half-inch (13 mm) intervals to accept a spring-loaded locking lever, riveted to the upper channel, which holds the slides in the various positions.

The seat may be locked in the full forward position, or every half inch (13 mm) toward the full rear position, for a distance of approximately five inches (127 mm).

A latch wire connects the right and left spring-loaded locking levers, facilitating the simultaneous unlocking or locking of both seat adjusting slides.

Maintenance

The seat adjusting slides must be kept clean and lubricated for ease of operation.

Clean the slides with a grease removing solvent and dry with compressed air.

Apply Lubriplate, or equivalent, to all friction areas with a brush.

Removal

- (1) Refer to Front Seat Assembly Removal and remove seat.
- (2) Remove front seat adjusting slide spring.
- (3) Remove seat adjuster-to-bottom frame attaching nuts, spacer washers, and/or screws and remove seat adjusting slides.
- (4) Disconnect latch wire from seat adjusting slides.

Installation

- (1) Connect latch wire to seat adjusting slides.
- (2) Position spacer washers (if required) on seat adjusting slide studs and install seat adjusting slides on seat bottom frame. Secure with attaching nuts and/or screws. Tighten hardware to 225 inch-pounds (25.4 Nm) torque.
- (3) Install front seat adjusting slide spring.
- (4) Refer to Front Seat Assembly Installation and install seat.

Bench Seat Adjusting Slide Latch Wire

Adjustment

- (1) Locate turnbuckle under the bench seats (fig. 3M-9).
- (2) Tighten turnbuckle until slack is removed from latch wire. Back off turnbuckle three turns.
- (3) Check seat adjusting slides for proper operation. If right slide will not release, tighten turnbuckle one turn at a time until proper operation is achieved. If right side will not lock, loosen turnbuckle one turn at a time until proper operation is achieved.

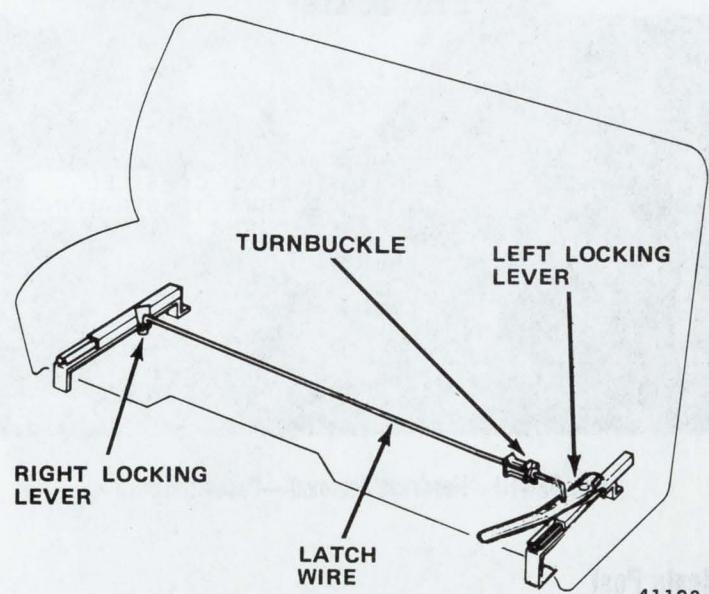


Fig 3M-9 Latch Wire Adjustment

HEADREST ASSEMBLIES

Pacer—Concord

The front seat back headrest can be raised or lowered to a desired position by merely lifting the headrest which slides the headrest post in a casing mounted in the seat back. A friction catch, which is spring loaded to a specific tension, is set into the casing and engages a depression in the post to retain the headrest in the full up position.

The head restraint plastic trim cover is slipped into the front seat back.

To remove, insert a thin, narrow piece of steel strapping, approximately 18 inches (45 mm) long, into plastic trim cover (fig. 3M-10). Exert a downward pressure on steel strapping while moving headrest up and down until steel strapping depresses spring catch. Remove headrest and plastic trim cover.

To install, insert plastic trim cover into hole in upholstery, padding, and seat back frame. Install headrest post into plastic trim cover.

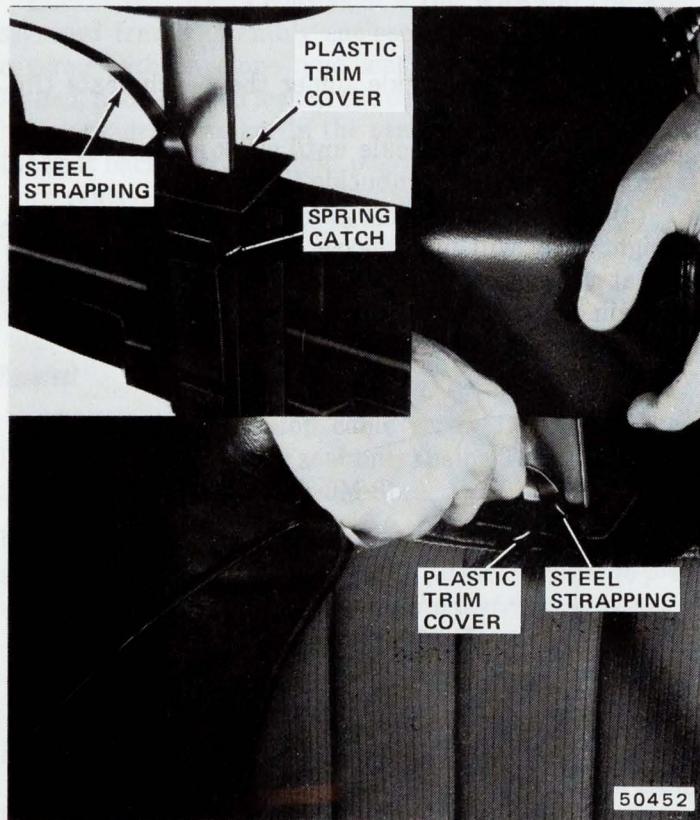


Fig. 3M-10 Headrest Removal—Pacer-Concord

Single Post

The front seat back headrest can be raised or lowered to a desired position by merely lifting the headrest which slides the headrest post in a casing mounted in the seat back. A friction catch, which is spring loaded to a specific tension, is set into the headrest post and engages depressions in the casing to retain the headrest in various desired positions.

All single post headrests will lock in the full up position when they are raised. To remove, release the latch incorporated in the casing and top plate assembly and pull upward (fig. 3M-11).

The head restraint casing assembly is a C-channel which is slipped into the front seat back. A flat spring steel retainer clip attached to the casing assembly holds

the unit in place on the seat back frame (fig. 3M-12 and 3M-13).

To remove, pull upward to release the spring clip from the seat back frame and then slide the casing out of the seat back.

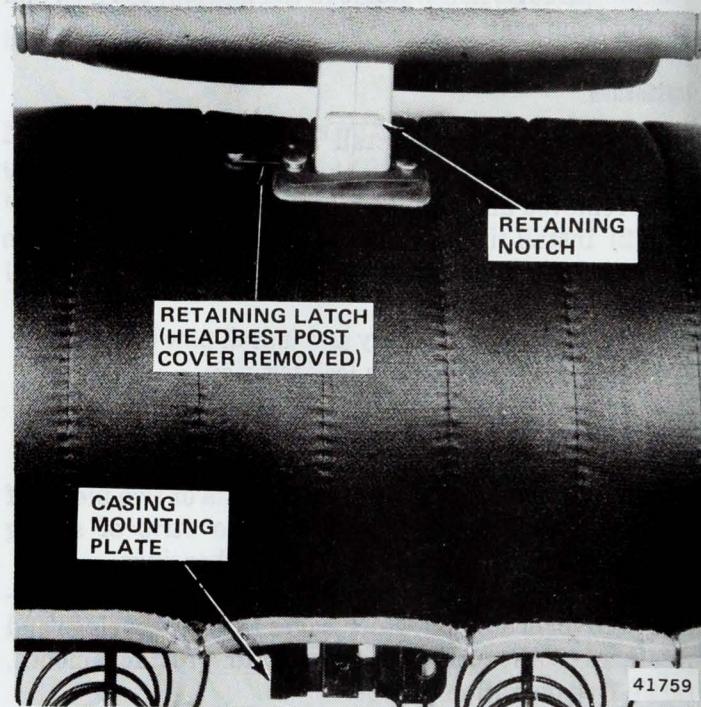


Fig. 3M-11 Headrest Mounting—Single Post

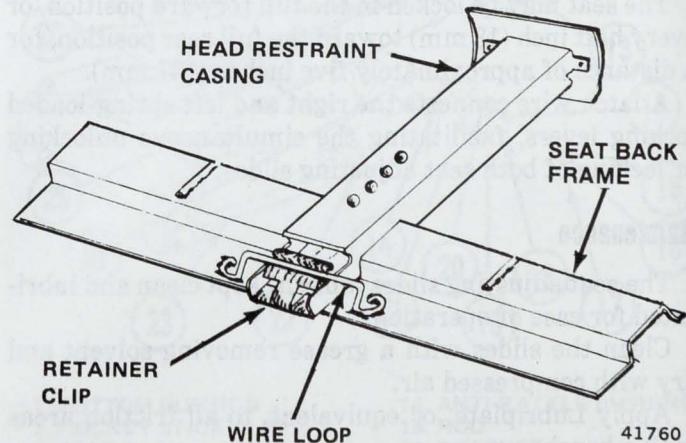


Fig. 3M-12 Headrest Casing Assembly

To install, insert casing into hole in upholstery and padding. Exert a slight forward pressure on the top of the casing to guide it into place in the wire loop which is welded to the seat back frame. As contact is made, tap casing with heel of hand to snap retaining clip over wire loop (fig. 3M-12).

Double Post

The double-post headrest can be raised or lowered to three positions. A spring-loaded catch for each of the posts is attached to the seat back spring and cushion assembly and engages the notches in the headrest posts (fig. 3M-14).

The headrest consists of a frame and post assembly with a foam filler cemented to the frame and covered with upholstery to match the seat back upholstery (fig. 3M-15).

To remove, raise the headrest to the second notch and then tap it up past the last notch with the heel of the hand.

To install, insert the two posts of the headrest into the holes in the top of the kickpad. Push down on the head-

rest. When the posts engage the mounting holes in the seat back spring, press the assembly down past the retainers.

Headrest Cover Replacement

Remove the headrest assembly from the casing in the seat back. Compress the filler pad to allow the cover to be removed. Position replacement cover on filler pad,

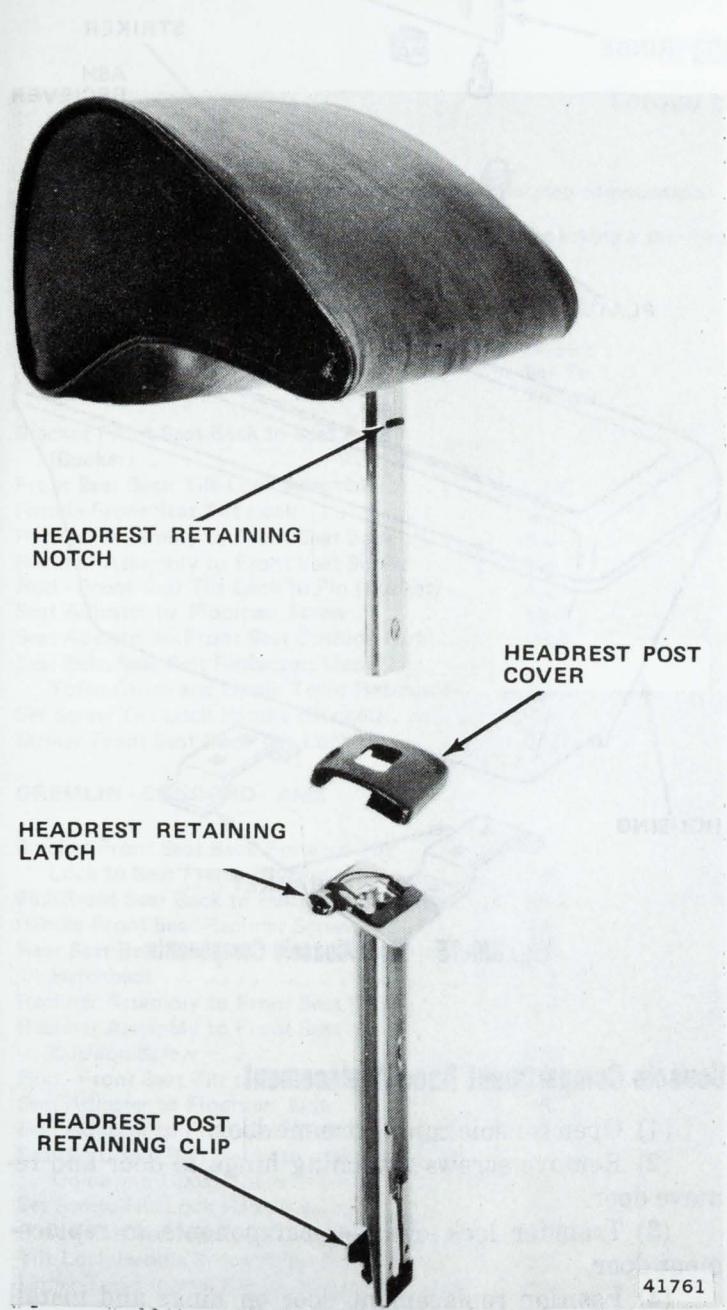


Fig. 3M-13 Single Post Headrest Components

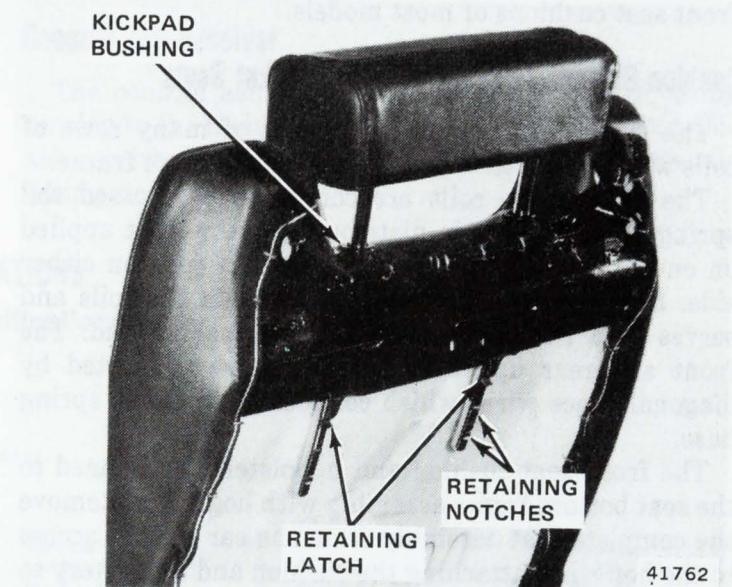


Fig. 3M-14 Headrest Mounting—Double Post

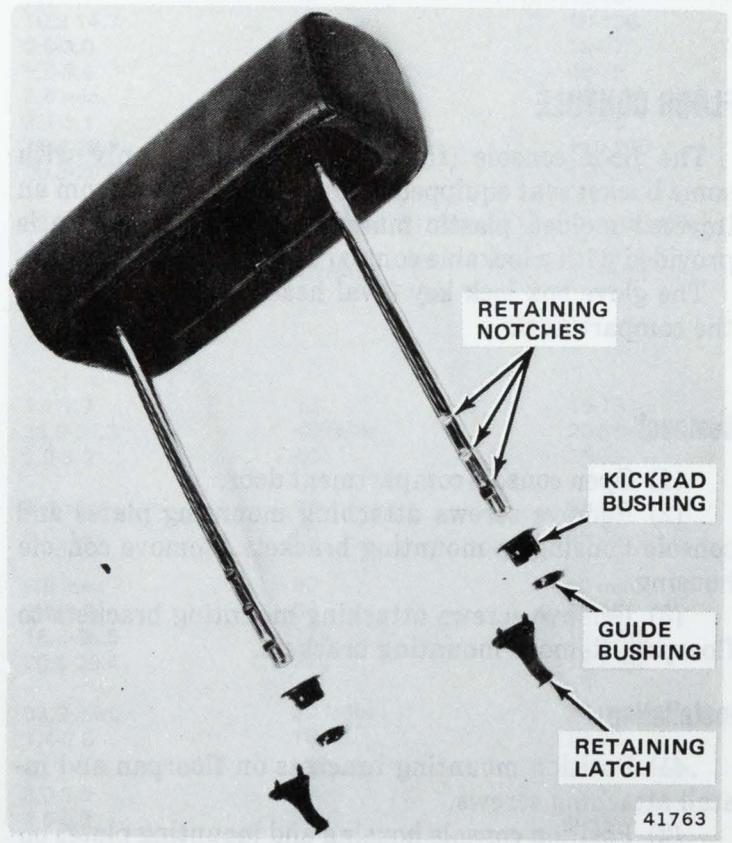


Fig. 3M-15 Double Post Headrest Components

compressing filler pad and working cover over filler pad. Install headrest assembly in casing in seat back.

SEAT CUSHIONS

Padding

A polyurethane foam pad is standard equipment on front seat cushions of most models.

Cushion Springs—Matador Except Bucket Seats

The front cushion springs consist of many rows of coils which are interwoven to the cushion base frame.

The tops of the coils are connected by crossed coil springs. This assists in distributing the weight applied on one row of coils to the other rows of coils on either side. It also closes the openings between the coils and serves as a flexible support for the cushion pad. The front and rear upper border wires are supported by diagonal brace wires which connect them to the spring base.

The front seat cushion and upholstery is fastened to the seat bottom frame assembly with hog rings. Remove the complete seat assembly from the car to gain access to the hog rings attaching the cushion and upholstery to the seat bottom frame.

The front seat coil spring base is welded to the seat bottom frame.

FLOOR CONSOLE

The floor console (fig. 3M-16), available only with some bucket seat equipped models, is fabricated from an injected molded plastic material. The floor console is provided with a lockable compartment and ash receiver.

The glove box lock key (oval head) locks and unlocks the compartment.

Removal

- (1) Open console compartment door.
- (2) Remove screws attaching mounting plates and console housing to mounting brackets. Remove console housing.
- (3) Remove screws attaching mounting brackets to floorpan. Remove mounting brackets.

Installation

- (1) Position mounting brackets on floorpan and install attaching screws.
- (2) Position console housing and mounting plates on mounting brackets and install attaching screws.
- (3) Close console compartment door.

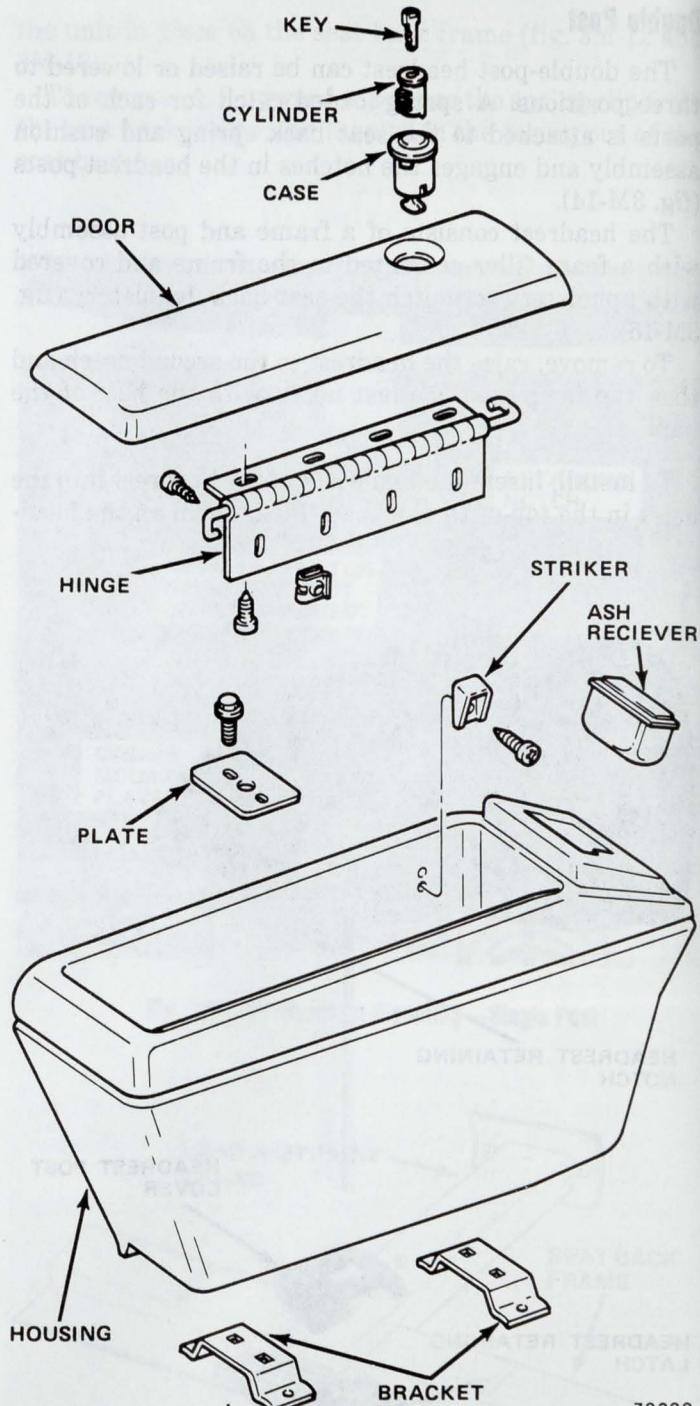


Fig. 3M-16 Floor Console Components

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Console Compartment Door Replacement

- (1) Open console compartment door.
- (2) Remove screws attaching hinge to door and remove door.
- (3) Transfer lock cylinder components to replacement door.
- (4) Position replacement door on hinge and install attaching screws.
- (5) Close console compartment door.

Console Compartment Door Hinge

The console compartment door hinge is attached to the console housing and door with screws. The hinge may be removed after removal of the attaching screws.

Console Compartment Door Lock

Lock Cylinder Removal

- (1) Open console compartment door.
- (2) Remove screw attaching lock case to door.
- (3) Remove lock case, cylinder and key as a unit from door.
- (4) Manually set latch to simulate closed door position, turn key and cylinder counterclockwise and lift out of lock case.

Lock Cylinder Installation

- (1) Manually set latch to simulate closed door position.
- (2) Insert key and cylinder into case and turn clockwise. Release latch and remove key.
- (3) Position assembled lock case in door and install attaching screw.

Console Ash Receiver

The console ash receiver is held in place by spring tension to the molded plastic of the console housing. The ash receiver can be removed by grasping the edges and lifting straight up.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components.

Service In-Use Recheck Torques should be used for checking a pre-torqued item.

PACER	METRIC	Service In-Use Recheck Torque	USA	Service In-Use Recheck Torque
	Service Set-To Torque		Service Set-To Torque	
Bracket Front Seat Back to Seat Back (Bucket)	1.4	1.1-1.7	12	10-15
Front Seat Back Tilt Lock Assembly	12.4	10.2-14.7	110	90-130
Handle Front Seat Tilt Lock	2.3	2.0-3.0	20	18-27
Recliner Assembly to Front Seat Back	6.8	5.0-8.4	60	45-75
Recliner Assembly to Front Seat Screw	6.8	5.6 min.	60	50 min.
Rod - Front Seat Tilt Lock to Pin (Bucket)	4.3	3.4-5.1	38	30-45
Seat Adjuster to Floorpan Screw	19.7	15.8-28.2	175	140-250
Seat Adjuster to Front Seat Cushion Nut	25.4	20.3-29.4	225	180-260
Seat Belt, Seat Belt Retractor, Upper Torso Guide and Upper Torso Retractor	40.7	33.9	30 ft-lbs	25 ft-lbs min.
Set Screw Tilt Lock Handle (Bucket)	2.0	1.4-2.5	18	13-22
Striker Front Seat Back Tilt Lock	54.2	40.7 min.	40 ft-lbs	30 ft-lbs min.

GREMLIN - CONCORD - AMX

Bracket Front Seat Back Forward Tilt Lock to Seat Frame (Bucket)	1.4	1.1-1.7	12	10-15
Full Front Seat Back to Full Cushion Screw	54.2	33.9-81.3	40 ft-lbs	25-60 ft-lbs
Handle Front Seat Recliner Screw	4.5	3.9-6.2	40	35-55
Rear Seat Belt Anti-pivot Bolt - All Except Hatchback	7.9	6.8-10.2	70	60-90
Recliner Assembly to Front Seat Back	6.8	5.0-8.4	60	45-75
Recliner Assembly to Front Seat Cushion Screw	6.8	5.6 min.	60	50 min.
Rod - Front Seat Tilt to Pin (Bucket)	4.3	3.4-5.0	38	30-45
Seat Adjuster to Floorpan Nut	19.7	15.8-26.5	175	140-235
Seat Adjuster to Front Seat Cushion Nut	25.4	20.3-29.4	225	180-260
Seat Belt, Seat Belt Retractor, Upper Torso Guide and Upper Torso Retractor	40.7	33.9 min.	30 ft-lbs	25 ft-lbs min.
Set Screw Tilt Lock Handle Bucket	2.0	1.4-2.5	18	13-22
Split Front Seat Back to Full Cushion Screw	54.2	40.7 min.	40 ft-lbs	30 ft-lbs min.
Tilt Lock Handle Screw (Split Back)	2.3	2.0-3.0	20	18-27
Upper Torso Inertia Reel Anti-Swivel	5.7	4.5-6.8	50	40-60

SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components.

Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC	USA		Service In-Use Recheck Torque
		Service Set-To Torque	In-Use Recheck Torque	
MATADOR				
Bracket Front Seat Back Forward				
Tilt Lock to Seat Frame (Bucket)	1.4	1.1-1.7	12	10-15
Front Seat Back Tilt Lock Assembly Split				
Back - 16	12.4	10.2-14.7	110	90-130
Front Seat Tilt Lock Striker Screw - 16	20.3	136.	15 ft-lbs	10-20 ft-lbs
Full Front Seat Back to Full Cushion	54.2	27.1-81.4	40 ft-lbs	20-60 ft-lbs
Handle Front Seat Recliner Screw	4.5	3.9-6.2	40	35-55
Individual Front Seat Non-Recliner				
Back to Cushion Bolt (Fleet Sales Only) . . .	18.0	15.8-22.6	160	140-200
Recliner Assembly to Front Assembly				
Cushion	6.8	5.6 min.	60	50 min.
Recliner Assembly to Front Seat Back	6.8	5.0-8.4	60	45-75
Rod - Front Seat Tilt Lock to Pin (Bucket) . .	2.0	1.4-2.5	18	13-22
Seat Adjuster to Floor Pan	19.7	15.8-26.5	175	140-235
Seat Adjuster to Front Seat Cushion	25.4	20.3-31.0	225	180-275
Seat Adjuster to Front Seat Cushion				
Frame Rear (Bucket)	25.4	20.3-31.6	225	180-280
Seat Belts, Seat Belt Retractor, Upper				
Torso Guide and Upper Torso Retractor . . .	40.7	33.9 min.	30 ft-lbs	25 min.
Set Screw Tilt Lock Handle (Bucket)	2.0	1.4-2.5	18	13.22

All Torque values given in inch-pounds and newton-meters with dry fits unless otherwise specified.

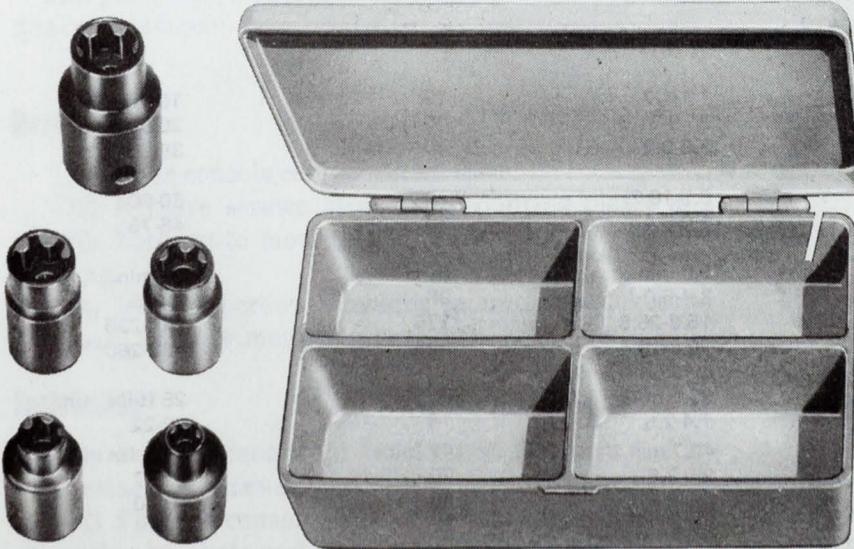
70300B

Special Tools

J-2631-01
TRIM PAD
DEPRESSOR



J-25359-02
TORX BIT AND
SOCKET SET



50445A

REAR SEATS

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Rear Seat Extension—Pacer	3M-16	
Seat Back Assemblies	3M-15	
Seat Cushions and Backs	3M-17	
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		Third Seat Back and Cushion 3M-18

SEAT BACK ASSEMBLIES

Sedan Models

The seat backs consist of a spring assembly, combination spring and topper pad and upholstery.

The combination spring and fibrous topper pad is fastened to the spring rear border wire with hog rings.

The spring assembly has two base vertical supports extending below the bottom of the spring.

The full width seat back assembly for the Concord and Matador Sedans has two base vertical supports extending below the bottom of the spring and is secured to the floorpan with sheet metal screws and large washers.

The seat back is retained at the top by metal hooks on the rear window shelf panel which engage a wire loop welded to the seat back spring. The full seat back is retained with two hooks, one on each side.

Removal—Concord-Matador

Remove the seat cushion to expose the seat back lower attaching screws. Remove the screws and flat washers and lift up on the seat back to disengage it from the hook retainers on the rear window shelf panel.

Installation—Concord-Matador

When sliding the back up into position, care must be exercised to ensure positive engagement of the upper tabs with the loops on the seat back spring.

The seat back must fit snugly under the shelf panel before anchoring the bottom supports to the floor.

Install screws and flat washers attaching seat back to floor.

Hinged Rear Seat Back

The rear seat backs in the Pacer, Gremlin, Concord Hatchback and Wagon, AMX and Matador Station Wagon models are hinged at the base. This allows the rear seat back to be folded to a horizontal position and form an extension of the cargo area.

The hinges use screws to attach each bracket to the rear seat back panel. The other half of the hinge is mounted to the rear wheelhouse.

The Gremlin-Concord-AMX release handles on either side of the rear back are formed of one rod which is attached to the seat back frame. The handles also form a part of the catch mechanism which engages the striker mounted to the rear wheelhouse.

The Matador Station Wagon rear seat back folds down as the seat cushion slides forward to provide support for the seat back. Extra weight on the forward edge of the seat back is required to engage the extension panel completely. In the locked position, the extension panel will also keep the seat back from raising up. To release, push down on the front edge of the seat back and at the same time lift up and hold the extension panel up against the seat back as the seat back is returned to the upright position. With the same motion, the seat cushion also moves back into proper location.

Removal—Pacer-Gremlin-Concord-AMX

- (1) Fold back lower outside corner of rear seat back carpeting (if equipped) to expose screws attaching hinge to seat back frame.

- (2) Remove screws on each hinge and remove seat back assembly.

Installation—Pacer-Gremlin-Concord-AMX

- (1) Position seat back assembly in car, between hinges, and install attaching screws.

- (2) Tighten screws.

Removal—Matador Station Wagon

- (1) Tip rear seat cushion up, from rear, far enough to reach in and release retention springs from lower front flange of the seat cushion (fig. 3M-17).

- (2) From front side of seat cushion, unhook retainer wires from retainer wire brackets on floorpan.

- (3) Remove seat cushion.

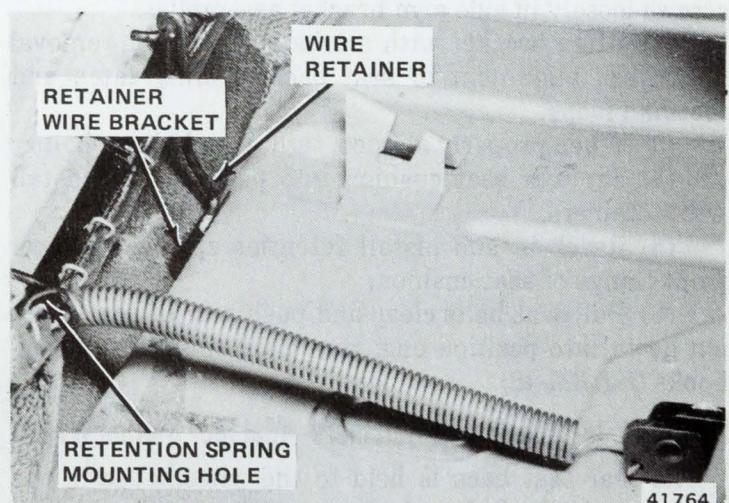


Fig. 3M-17 Retention Spring Mounting—Matador Station Wagon

NOTE: Mark position of side arm brackets before removal.

(4) Remove screws attaching side arm bracket assembly to floorpan.

(5) Release retainer latches on both sides to permit seat back assembly removal.

(6) Side arm bracket assemblies are attached to seat by shoulder bolts (fig. 3M-18).

(7) Extension panel can be removed from hinge by removing screws along hinge.

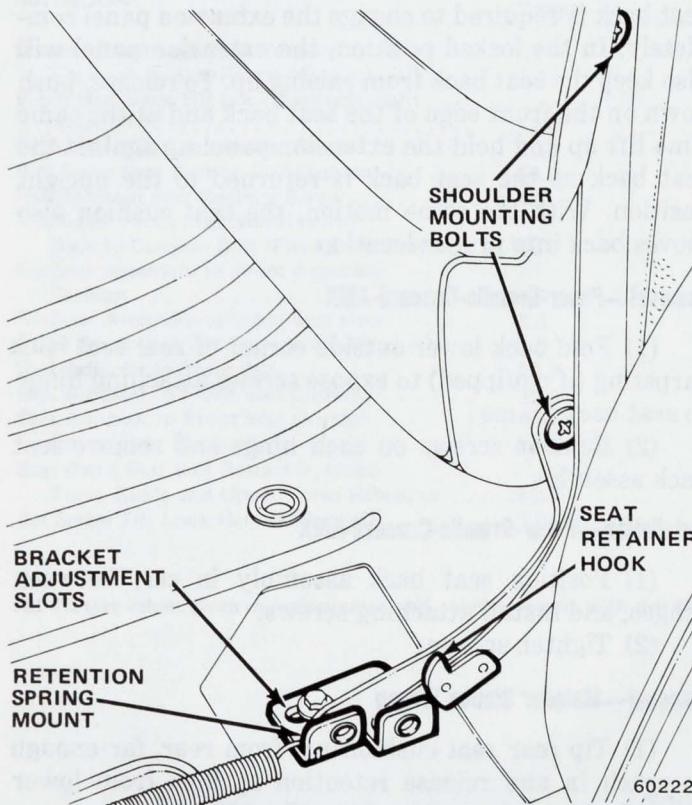


Fig. 3M-18 Seat Back Side Arm Bracket—Matador Station Wagon

Installation—Matador Station Wagon

(1) Set rear seat back into position and install screws loosely in side arm bracket assemblies.

(2) Align bracket with marks made during removal and check alignment of seat back retainer latch and footman loops.

(3) When properly aligned, tighten holdown bolts.

(4) Set rear seat cushion into position and install wire retainers.

(5) Reach in and install retention springs in lower front flange of seat cushion.

(6) Pull seat belts clear and push rear of seat cushion down into position engaging loops in seat retaining hooks (fig. 3M-18).

Seat Back-to-Wheelhouse Retainers—Matador Station Wagon

The rear seat back is held to the wheelhouse in the upright position by a trip latch retainer on both sides (fig. 3M-19).

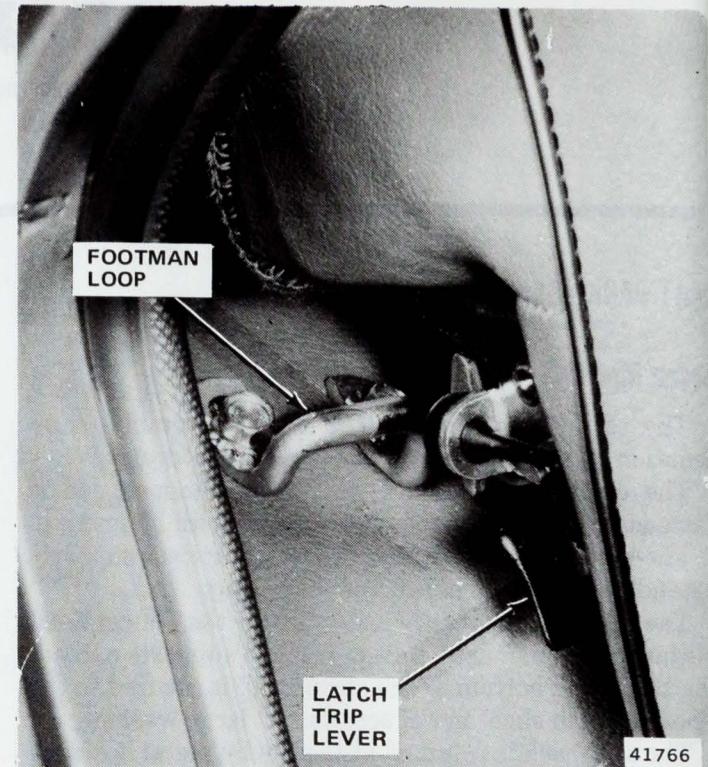


Fig. 3M-19 Seat Back to Wheelhouse Retainer—Matador Station Wagon

These retainers engage footman loops on the wheelhouse.

The footman loops are adjustable, forward or back. Tighten screws to 35 inch-pounds (3.9 Nm) torque.

Hinges—Pacer

Removal

(1) Remove seat back assembly.

(2) Remove screws attaching hinge to wheelhouse using Torx Bit Tool J-25359-02. Remove hinge.

Installation

(1) Position hinge on wheelhouse and install attaching screws using Torx Bit Tool J-25359-02. Tighten screws to 30 foot-pounds (40.6 Nm) torque.

(2) Install seat back assembly.

REAR SEAT EXTENSION—PACER

The rear seat extension is mounted to the body on a hinge which allows the extension to fold forward and provide a flat floor for the cargo area.

Removal

(1) Fold hinged rear seat back down.

(2) Remove torsion spring retaining brackets and torsion springs.

(3) Remove screws attaching rear seat extension to body. Remove extension.

Installation

- (1) Position rear seat extension in car on body and install attaching screws.
- (2) Install torsion springs in extension.
- (3) Push torsion springs into load position and secure with retaining brackets and attaching screws.
- (4) Raise and lock rear seat back.

SEAT CUSHIONS AND BACKS

Padding

The rear cushion pads are fibrous material except on the Pacer and Matador which has a standard polyurethane foam pad.

Cushion Springs

All Pacer and Matador rear seat cushions and backs are of formed wire construction (fig. 3M-20).

The upholstery material is attached to the spring and frame assembly with hog rings.

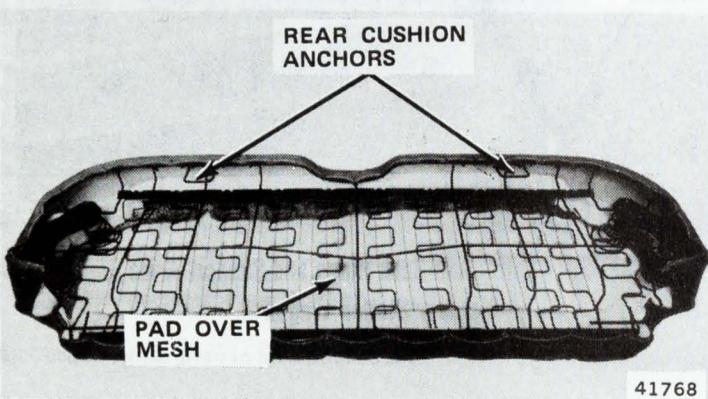


Fig. 3M-20 Rear Seat Cushion—Matador

All Gremlin, Concord and AMX seat cushions and backs are of universal wire construction.

The universal wire springs are attached to the seat frame and at the edges, (front, side, top or rear), to a flat, stiff, border wire which provides the basic foundation for the seat cushion or back (fig. 3M-21).

The upholstery material is attached to the spring and frame assembly with hog rings.

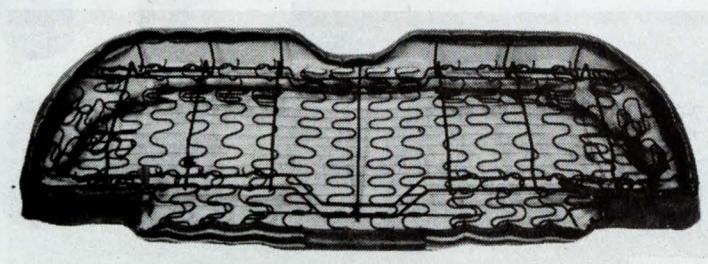


Fig. 3M-21 Universal Wire Construction

Cushion Pad Support and Grille Assembly

The cushion pad support and grille assembly is a series of spring steel wires spaced about two inches (5 cm) apart and interwoven into a mesh covering.

The grille assembly covers the complete top area of the spring assembly and is fastened to the top of the coils or border wires with hog rings. It provides a smooth foundation for the pad assemblies and prevents excessive sagging of the pad between the springs. It is used on foam or fibrous padded cushions.

Types of Pads

The fibrous pads are part of the pad support and grille assembly, spring pad, fibrous topper pad, and a top covering all stitched together into one unit.

The foam pad is of sufficient size to cover the complete top area of the cushion spring and extend over the outer edges. On foam pad cushions, the spring pad with grille is fastened to the springs with hog rings before the foam pad is installed.

The cushion upholstery is installed over the foam pad and fastened to the springs with hog rings. This retains the foam pad in position on the grille and spring pad without fastening it to the springs.

Cushion Pad Protector

A heavy felted strip is fastened to the cushion spring top border wire with hog rings. This increases the radius of the border wire and provides a smooth, rounded surface for the spring pad. It protects the pad from possible damage due to friction of the pad on the spring border wire.

Rear Seat Cushion

The rear seat cushion is anchored to the floor with reverse C-slotted retainer brackets which are welded to each side of the floorpan (fig. 3M-22).

On the Gremlin, the rear seat cushion is also anchored at the rear on each outer end between the back and the cushion with two sheet metal screws.

Removal

- (1) Disengage cushion wire rods from retainer brackets with a sharp upward jolt of the hand on lower rim.

- (2) Lift upward at front of cushion and pull it forward and remove cushion from car.

Installation

- (1) Position cushion in car and place seat belts on top of cushion.

- (2) Slide cushion under rear seat back far enough to engage wire with top of the slot.

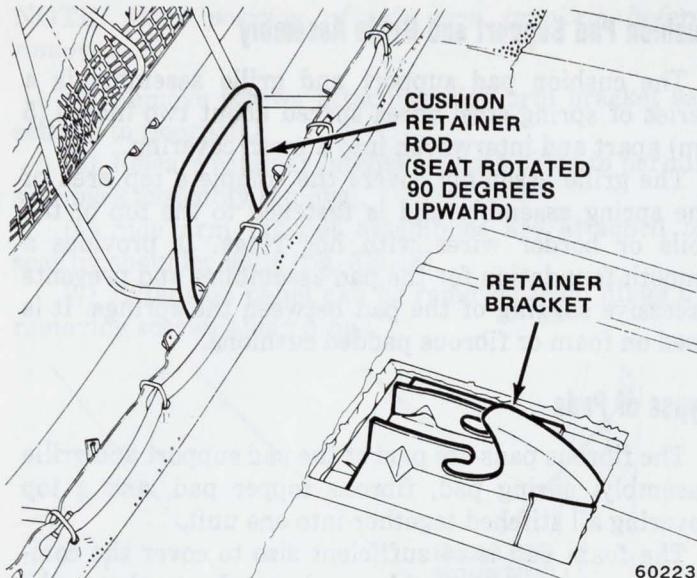


Fig. 3M-22 Rear Seat Cushion Retainer

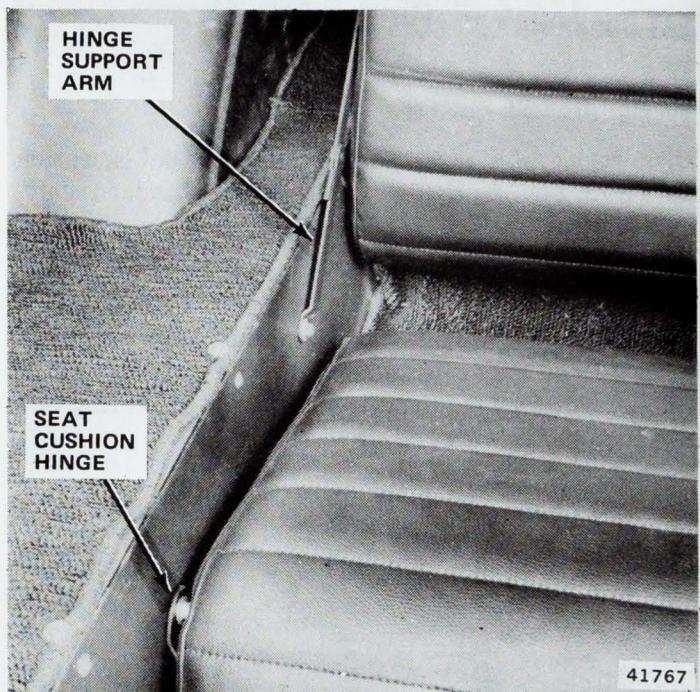
- (3) Push down at the front and move cushion forward.
- (4) Check for positive engagement to prevent forward movement and lift.

THIRD SEAT BACK AND CUSHION

The third seat back and cushion consists of a veneer board base with a polyurethane foam pad and upholstery covering stapled to the base board.

The complete assembly is mounted to the body on hinges which allow the cushion and back assemblies to be folded toward the rear to provide a flat cargo space when not in use as a passenger compartment.

The seat back is retained in the upright position by hinged support arms which are hinged in the center and must break forward in order to fold the back down (fig. 3M-23).

Fig. 3M-23 Third Seat Back Hinge and Support Arms
—Matador Station Wagon

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components.

Service In-Use Recheck Torques should be used for checking a pre-torqued item.

METRIC (N·m)		USA	
Service Set-To Torque	Service In-Use Torque	Service Set-To Torque	Service In-Use Recheck Torque

PACER

Rear Seat Back Hinge to Body	7.9	6.7-9.0	70	60-80
Rear Seat Back Hinge to Seat	7.9	6.7-9.0	70	60-80
Rear Seat Back Latch Pin	40.6	33.8	30 ft-lbs	25 ft-lbs

All Torque values given in inch-pounds and newton-meters with dry fits unless otherwise specified.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components.

Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)		USA	
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque

GREMLIN - CONCORD - AMX

Catch - Rear Seat Back Support				
L.H. Screw - Gremlin	2.8	2.3-4.5	25	20-40
Rear Seat Back Hinge Pivot				
Bracket to Board	2.3	1.7-4.5	20	15-40
Rear Seat Back Lock Rod				
Bracket to Board	2.3	1.7-4.5	20	15-40
Rear Seat Belt Anti-Pivot Screw	7.9	6.7-10.2	70	60-90
Rear Seat Cushion to Floorpan	2.3	1.7-4.5	20	15-40
Rear Seat Restraint and Retractor	40.6	33.8-61.0	30 ft-lbs	25-45 ft-lbs
Retainer - Bracket Rear Seat Back				
Latch Rod to Wheelhouse	4.5	2.8-5.6	40	25-50

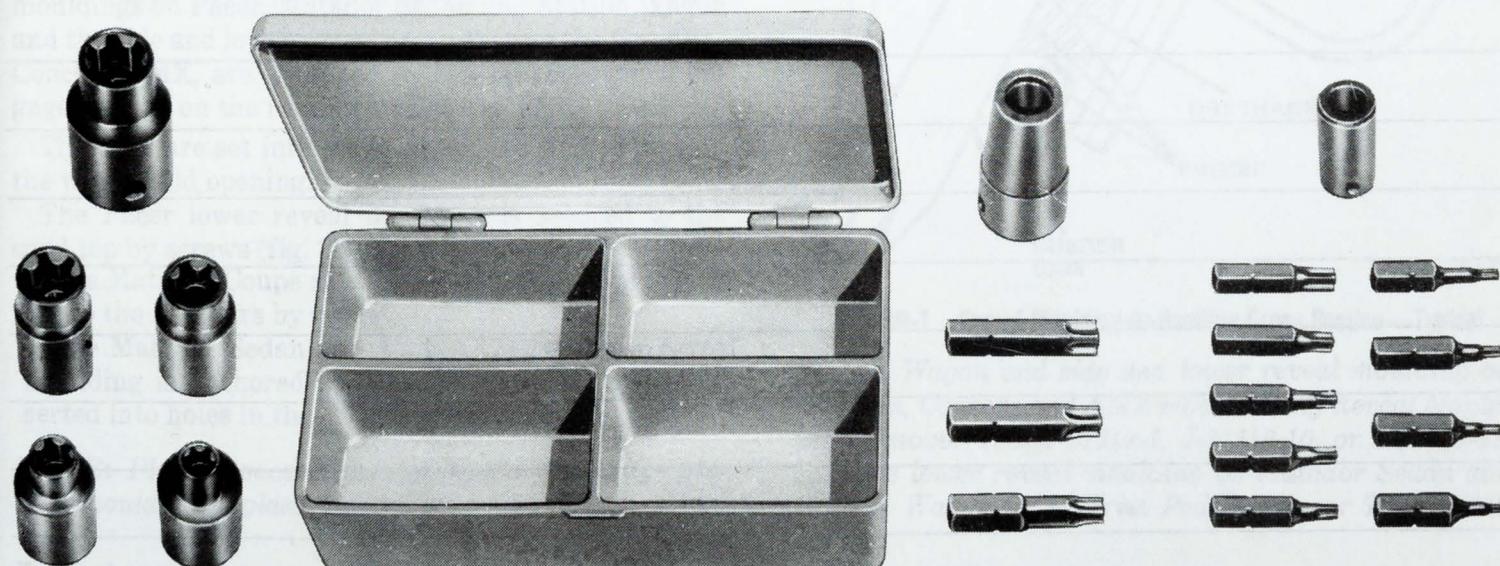
MATADOR

Footman Loop to Wheelhouse	3.9	3.4-5.0	35	30-45
Rear Seat Back Hinge Arm				
to Back Board	2.8-	2.3-4.5	25	20-40
Rear Seat Back Hinge Arm to Floor	2.8	2.3-4.5	25	20-40
Rear Seat Back Latch Retainer				
to Seat	2.8	2.3-4.5	25	20-40
Rear Seat Retractor Anti-Pivot				
Screw	3.9	3.4-4.5	35	30-40
Rear Seat Support and Hinge to				
Board Reinforcement and Bracket.	2.8	2.3-4.5	25	20-40

All Torque values given in inch-pounds and newton-meters with dry fits unless otherwise specified.

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Special Tools



J-25359-02
**TORX BIT AND
SOCKET SET**

50445B

NOTES

04-05 100% 未
05-06 100% 未
2006 年度 第二回 未
2007 年度 第一回 未

WINDSHIELD- REAR WINDOW

3N

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WINDSHIELD

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GENERAL

A one-piece curved windshield, consisting of two sheets of plate glass laminated together, is used on all models. The windshield is bonded to the body opening with urethane adhesive to provide greater roof-to-body structural support and improved glass retention and sealing.

REVEAL MOULDINGS

The upper reveal mouldings on all models, side reveal mouldings on Pacer, Matador Sedan and Station Wagon and the side and lower reveal mouldings on the Gremlin-Concord-AMX, are L-shaped with a lip edge which engages a barb on the retaining clips (fig. 3N-1).

The clips are set into studs which are welded around the windshield opening.

The Pacer lower reveal moulding is secured to the cowl top by screws (fig. 3N-2).

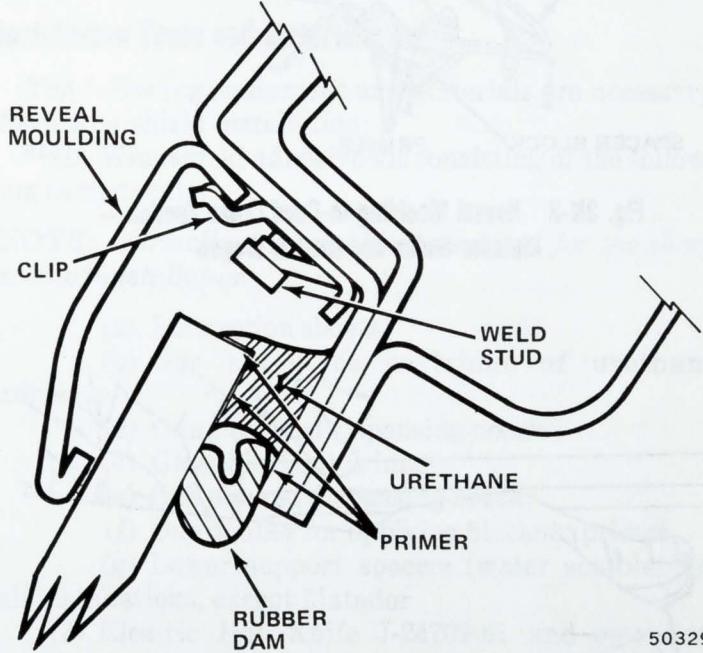
The Matador Coupe side reveal mouldings are attaching to the A-pillars by screws.

The Matador Sedan and Station Wagon lower reveal moulding is anchored by spring tension wire clips inserted into holes in the cowl top (fig. 3N-3).

NOTE: Plastic spacers inserted in the mouldings prevent moulding-to-glass contact.

Removal

NOTE: Remove the upper reveal mouldings on all models, side reveal mouldings on Pacer, Matador Sedan and



50329

Fig. 3N-1 Reveal Moulding-to-Roofline Cross Section—Typical

Station Wagon and side and lower reveal moulding on Gremlin, Concord and AMX models using Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11. Remove lower reveal moulding on Matador Sedan and Station Wagon using Trim Pad Depressor Tool J-2631-01.

Pacer

(1) Insert Reveal Moulding Remover Tool between glass and moulding, parallel with glass (fig. 3N-4).

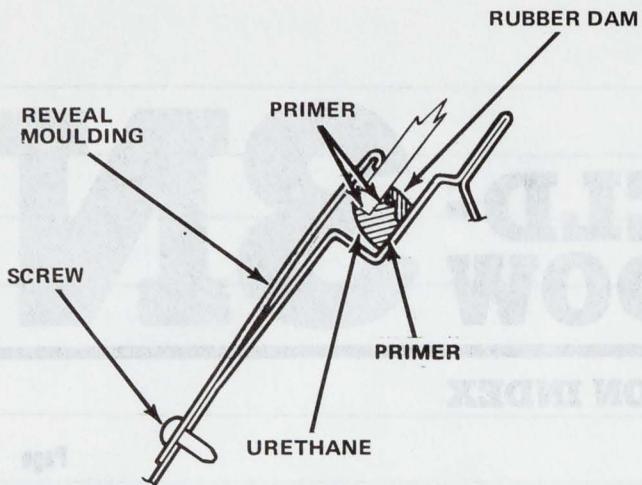
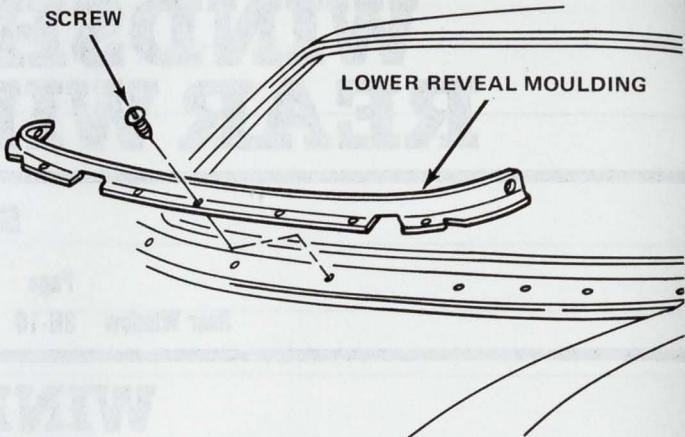


Fig. 3N-2 Reveal Moulding-to-Cowl Cross Section—Pacer

50330

- (2) Pry mouldings from clips with a rolling action.
- (3) To remove lower reveal moulding, remove windshield wiper arms and stops.
- (4) Remove screws attaching lower reveal moulding and remove moulding (fig. 3N-5).



A50332

Fig. 3N-5 Removing Lower Reveal Moulding—Pacer

Gremlin-Concord-AMX

- (1) Insert Reveal Moulding Remover Tool between glass and moulding, parallel with glass (fig. 3N-4).
- (2) Pry mouldings from clips with a rolling action.

Matador Coupe

NOTE: Remove side reveal mouldings before attempting to remove upper reveal moulding.

- (1) Remove door weatherseal retainer assemblies as outlined in Chapter 3J.
- (2) Remove screws attaching side reveal mouldings to A-pillars and remove mouldings.
- (3) Insert Reveal Moulding Remover Tool between glass and upper reveal moulding, parallel with glass (fig. 3N-4).
- (4) Pry moulding from clips with a rolling action.

Matador Sedan and Station Wagon

NOTE: Remove side reveal mouldings before attempting to remove upper reveal moulding.

- (1) Insert Reveal Moulding Remover Tool between glass and moulding, parallel with glass (fig. 3N-4).
- (2) Pry mouldings from clips with a rolling action.
- (3) Insert Trim Pad Depressor Tool J-2631-01 between glass and moulding, parallel with glass.

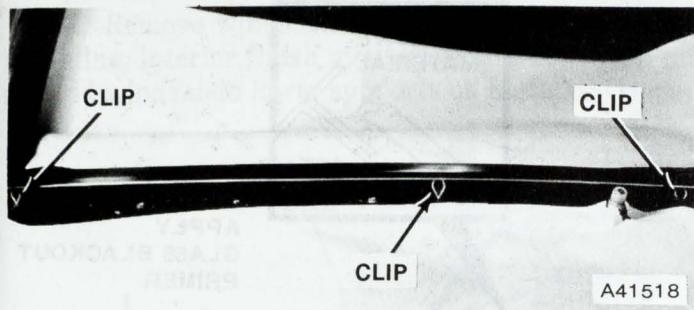
NOTE: Pad end of Trim Pad Depressor Tool with several layers of tape, to prevent scratching glass during moulding removal.

- (4) With a pumping action, pry moulding up until spring tension wire clips (fig. 3N-6) are released and remove moulding.

TOOL J-21549-1
AND J-21549-10

50331

Fig. 3N-4 Removing Side and Upper Reveal Mouldings—Typical



**Fig. 3N-6 Removing Lower Reveal Moulding—
Matador Sedan and Station Wagon**

FINISH MOULDINGS

Pacer

The windshield upper and end cap finish mouldings are attached to the body by sheet metal screws.

The windshield left and right finish mouldings are attached to the A-pillar and lower instrument panel with sheet metal screws, and forward rib retaining clip.

Removal of all finish mouldings can be accomplished by removing the attaching screws and the mouldings. Removal of the left finish moulding lower attaching screw can be accomplished by removing the headlamp switch overlay and the four left side crash pad attaching screws and pulling the crash pad rearward.

Gremlin-Concord-AMX

The windshield center and upper finish mouldings are attached to the body by sheet metal screws.

The windshield left and right finish mouldings are attached to the A-pillar with sheet metal screws.

Removal of all finish mouldings can be accomplished by removing the attaching screws and the mouldings.

Matador Coupe

The windshield upper and end cap finish mouldings are attached to the body by sheet metal screws.

The windshield left and right finish mouldings are attached to the A-pillar with sheet metal screws.

Removal of all finish mouldings can be accomplished by removing the attaching screws and the mouldings.

Matador Sedan and Station Wagon

The windshield left and right upper and end cap finish mouldings are attached to the body by sheet metal screws.

The windshield left and right finish mouldings are attached to the A-pillar with sheet metal screws.

Removal of all finish mouldings can be accomplished by removing the attaching screws and the mouldings.

WINDSHIELD REPLACEMENT

A self-curing urethane adhesive is used to bond the windshield glass to the body because this material provides:

- The strength to meet the Federal Motor Vehicle Safety Standards (FMVSS) regulations covering windshield retention.
- The strength that is obtained increases overall body integrity by utilizing the windshield glass as an integral part of the body structure.

All FMVSS regulations require compliance to the standards throughout the life of the vehicle. Therefore, all windshields must be replaced with Windshield Glass Installation Kit (Urethane) 8124901, or equivalent, to assure compliance.

Short Method

This method is recommended when the windshield is removed intact and the body opening does not require repairs. After the glass has been removed, a controlled amount of adhesive is applied to the pinchweld flanges and used as a base for the replacement glass.

Extended Method

This method is recommended when there is a considerable loss of adhesion between original adhesive material and body opening, or body opening requires repair. All adhesive material must be removed from the pinchweld flanges.

Installation Tools and Materials

The following equipment and materials are necessary for a windshield installation:

(1) Windshield adhesive kit consisting of the following components:

NOTE: Normally only one kit is required for the short method installation.

- (a) Instruction sheets
- (b) One six-ounce cartridge of urethane adhesive
- (c) One standard dispensing nozzle
- (d) Glass blackout primer
- (e) One pointed dispensing nozzle
- (f) One dauber for applying blackout primer
- (g) Lower support spacers (water soluble) for all installations, except Matador

(2) Electric Hot Knife J-24709-01 and extension cord.

(3) One six-ounce, hand-operated Adhesive Gun J-24811, or equivalent.

(4) Paint finish primer—available as service part.

NOTE: Paint finish primer is intended for use with extended method.

(5) Six standoff spacers—available as service part for extended method installation.

(6) Razor-blade type knife.

(7) Masking tape.

(8) Isopropyl alcohol (rubbing alcohol).

- (9) Clean wiping rags or paper towels.
- (10) Methyl-ethyl-ketone (MEK) or toluene.
- (11) Grow Chemical Solvent GS-35, or equivalent.

NOTE: Methyl-ethyl-ketone (MEK), tuloul (toluene), and Grow Chemical Solvent GS-35 are usually available from chemical houses listed under SOLVENTS in the Yellow Pages. If not available locally in small quantities, these solvents may be obtained from mail order chemical houses such as E. H. Sargent & Co. and Fisher Scientific, which have sales-service centers throughout the country. This is not a complete list, nor is it a recommendation for the exclusive use of the chemical houses listed.

Blowout of rear window adhesive at bottom left
Window pane broken off but has been resealed
Window pane removed and being held with a wire

WATER LEAKS

Water leaks around windshields installed with urethane adhesive can be corrected without removing the glass.

NOTE: If windshield is structurally sound in the body opening without breaks in the bond greater than four inches in length (for a total not greater than eight inches per windshield), water leaks may be corrected by using a liquid butyl sealer such as 3M Windo-Weld Resealant, or equivalent. When the windshield is NOT structurally sound in the body opening, the following procedure will apply and will require one windshield adhesive kit.

(1) Remove windshield reveal mouldings. In some cases, it may be necessary to remove windshield finish mouldings.

(2) Water test around the entire sealing area of windshield.

(a) Always begin water spray at lowest point and allow sufficient saturation before moving water spray upward.

(b) To best simulate normal conditions that cause water leaks, i.e., rain or car wash, water test with a spray pattern rather than a heavy, solid stream of water, which can create misleading symptoms.

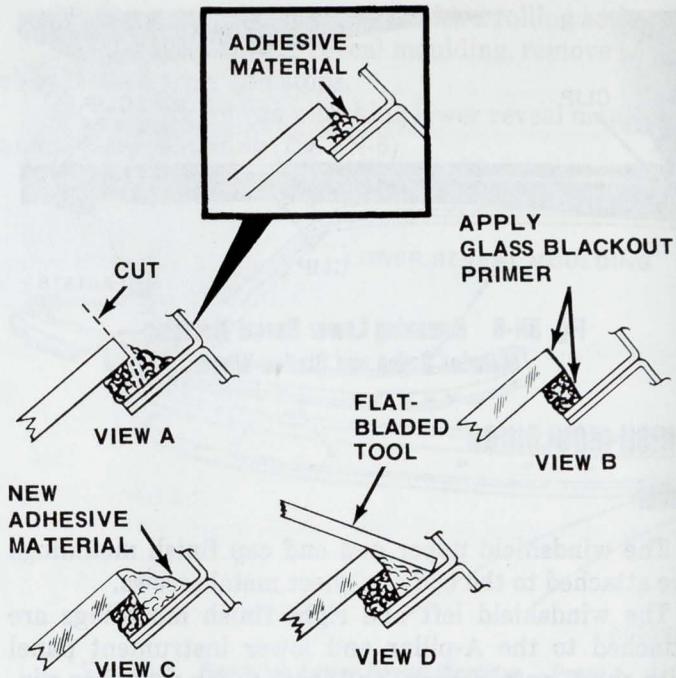
(3) Mark location of leak(s).

NOTE: If leak is between adhesive material and body, or between adhesive material and glass, carefully push outward on glass in area of leak to determine extent of leak. This operation should be performed while water is being applied to leak area. Mark extent of leak area.

(4) From outside body, clean dirt or foreign material from leak area with water; then completely dry area with compressed air.

(5) Using Electric Hot Knife J-24709-01 and plow blade J-24851, cut out edge of adhesive material (View A, fig. 3N-7) at leak point and one or two inches on both sides of leak point.

(6) Using a very small brush, apply glass blackout primer to edge of glass (View B, fig. 3N-7).



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Fig. 3N-7 Water Leak Repair

(7) Apply adhesive material, using pointed nozzle supplied with kit, replacing material removed in step (5) above (View C, fig. 3N-7).

(8) Immediately after performing above step, use a suitable flat-bladed tool to work adhesive material into leak point (View D, fig. 3N-7).

(9) Water test windshield immediately using cold water spray. Allow water to spill over edge of glass. Do not direct hard stream of water on fresh adhesive material.

(10) Install all previously removed parts.

Windshield Removal

NOTE: When necessary to replace a windshield for a "stress crack" condition. Carefully inspect before and during removal, for cause of stress crack, and make repairs (if needed) prior to windshield installation.

Conditions that may cause a stress crack:

- Bent or distorted BODY opening
- Metal to glass contact
- Foreign objects between windshield glass and opening
- Weld burrs
- Misaligned spacer blocks
- Chipped windshield glass

The windshield removal procedure is the same for both methods with one exception. If the short method is used, care must be taken during removal so that an even, uniform bead of adhesive remains on window opening to serve as a base for the replacement glass.

(1) Cover adjacent areas, interior and exterior, with a protective covering to avoid paint damage and additional cleanup.

(2) Remove windshield wiper arms, exterior reveal moulding, interior finish mouldings, and rear view mirror and windshield lower supports on Matador Coupe.

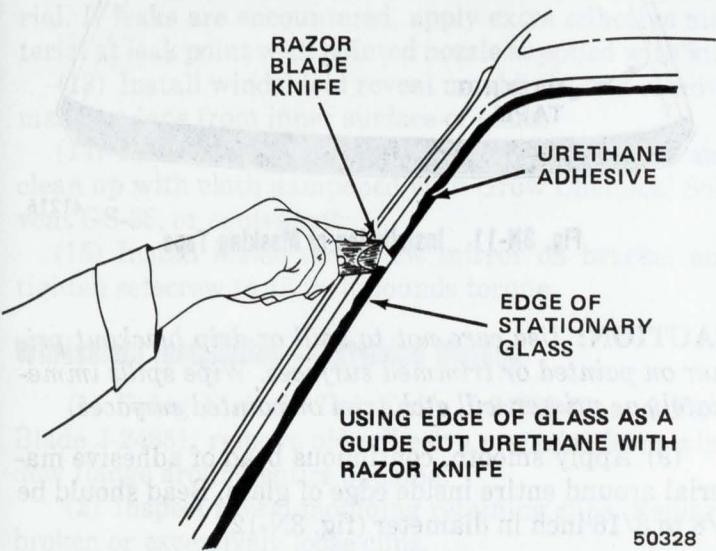


Fig. 3N-8 Cutting Urethane with Razor Blade Knife

(3) Make an initial cut around the edge of the glass with a razorblade-type knife (fig. 3N-8).

CAUTION: Do not allow the electric knife blade to remain stationary during the cutting operation as excessive heat can cause permanent softening of material.

(4) Using Electric Hot Knife J-24709-01 and appropriate blade, insert the blade under edge of glass (fig. 3N-9). Use special blade J-24852 to cut adhesive material at lower corners of glass on Pacers and across the bottom on Matador Coupes. Cut adhesive material as close to inside surface of glass as possible.

NOTE: Clean the blade with steel wool while it is still hot or with solvent and clean cloth when cool. For best results, keep the blade sharpened using a fine file.

(5) Remove glass from vehicle.

NOTE: If original glass is to be reinstalled, place it on a protected bench or holding fixture. Using clean, lint-free cloth, liberally damped with solvent (MEK or toluene), briskly rub over original adhesive material remaining on pinchweld flange.

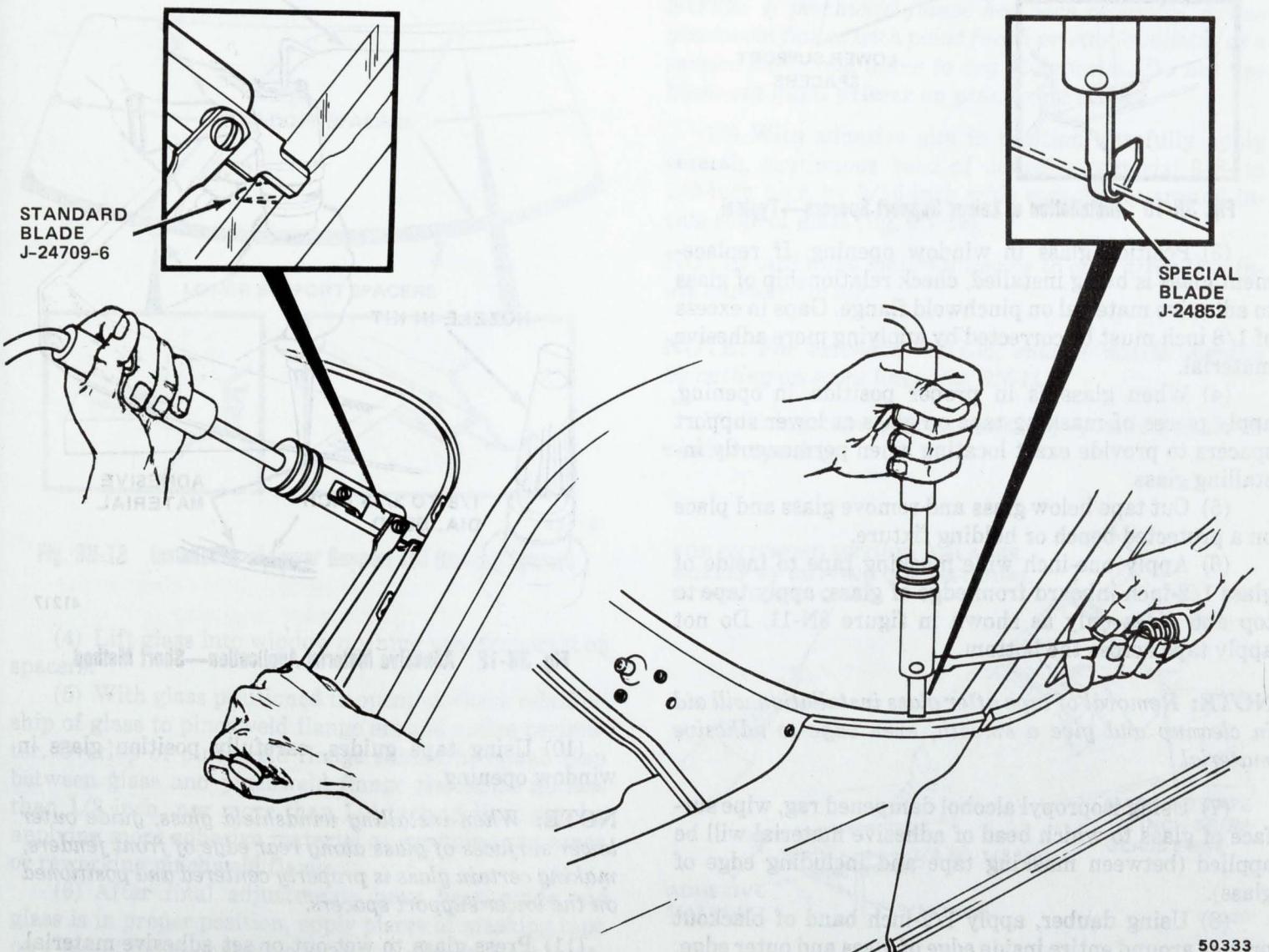
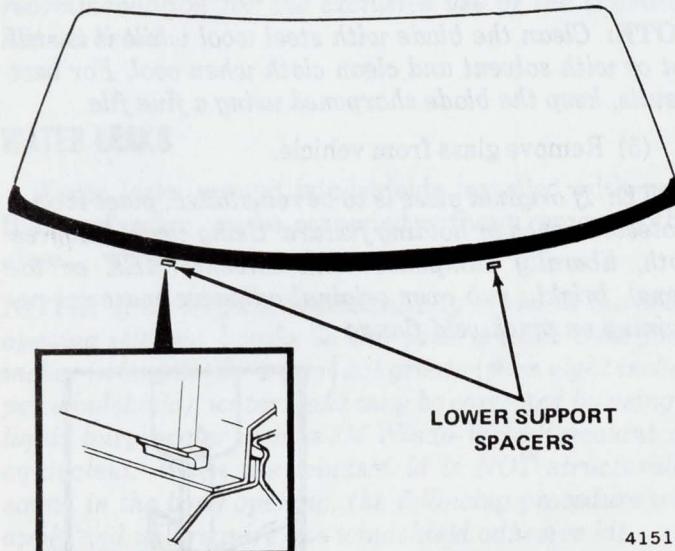


Fig. 3N-9 Windshield Removal with Hot Knife J-24709-01

Windshield Installation—Short Method

When a replacement windshield is installed, a replacement mirror bracket must be installed, if the replacement windshield is not equipped with one. Follow the procedure provided in this Chapter or with the mirror bracket kit supplied as a service part.

- (1) Inspect reveal moulding retaining clips. Replace any broken or excessively loose clips.
- (2) Install two lower support spacers (water soluble) (fig. 3N-10) or windshield lower supports on Matadors.



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Fig. 3N-10 Installation of Lower Support Spacers—Typical

(3) Position glass in window opening. If replacement glass is being installed, check relationship of glass to adhesive material on pinchweld flange. Gaps in excess of 1/8 inch must be corrected by applying more adhesive material.

(4) When glass is in proper position in opening, apply pieces of masking tape on glass at lower support spacers to provide exact locating when permanently installing glass.

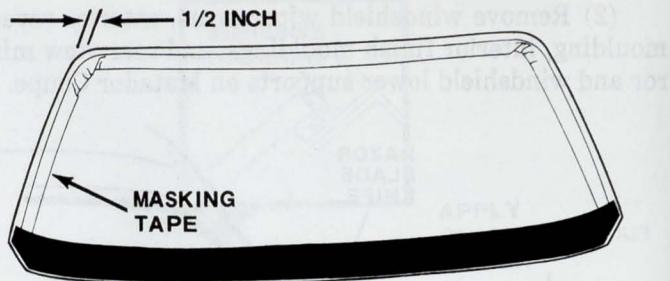
(5) Cut tape below glass and remove glass and place on a protected bench or holding fixture.

(6) Apply one-inch wide masking tape to inside of glass 1/2-inch inboard from edge of glass; apply tape to top and sides only as shown in figure 3N-11. Do not apply tape across the bottom.

NOTE: Removal of tape after glass installation will aid in cleanup and give a smooth, even edge to adhesive material.

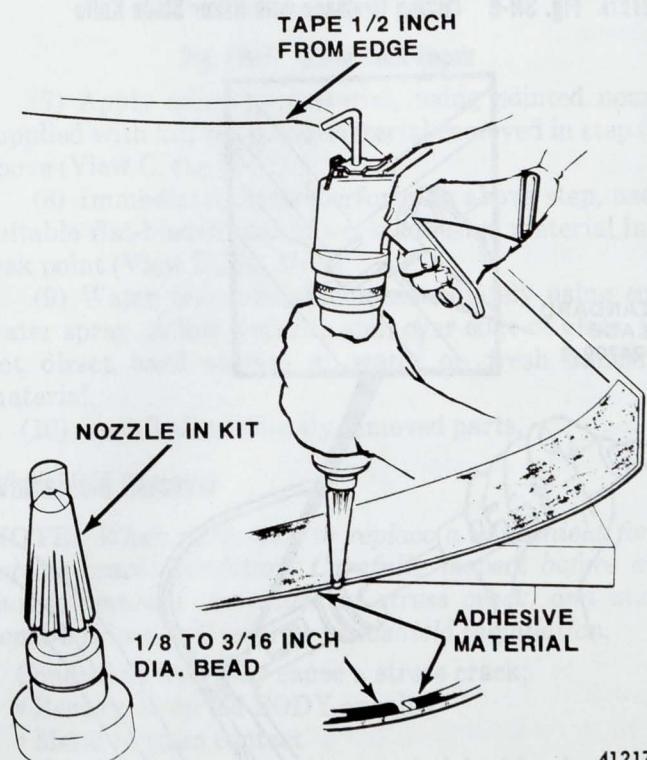
(7) Using isopropyl alcohol dampened rag, wipe surface of glass to which bead of adhesive material will be applied (between masking tape and including edge of glass).

(8) Using dauber, apply 1/2-inch band of blackout primer around entire inside edge of glass and outer edge. Allow primer to dry for 10 minutes.

**Fig. 3N-11 Installation of Masking Tape**

CAUTION: Use care not to spill or drip blackout primer on painted or trimmed surfaces. Wipe spills immediately as primer will etch trim or painted surfaces.

(9) Apply smooth, continuous bead of adhesive material around entire inside edge of glass. Bead should be 1/8 to 3/16 inch in diameter (fig. 3N-12).

**Fig. 3N-12 Adhesive Material Application—Short Method**

(10) Using tape guides, carefully position glass in window opening.

NOTE: When installing windshield glass, guide outer lower surfaces of glass along rear edge of front fenders, making certain glass is properly centered and positioned on the lower support spacers.

(11) Press glass to wet-out or set adhesive material. Use care to avoid excessive squeeze-out.

(12) Water test windshield immediately using cold water spray. Allow water to spill over edges of glass. Do not direct hard stream of water on fresh adhesive material. If leaks are encountered, apply extra adhesive material at leak point with pointed nozzle supplied with kit.

(13) Install windshield reveal mouldings and remove masking tape from inner surface of glass.

(14) Install all other previously removed parts and clean up with cloth dampened with Grow Chemical Solvent GS-35, or equivalent.

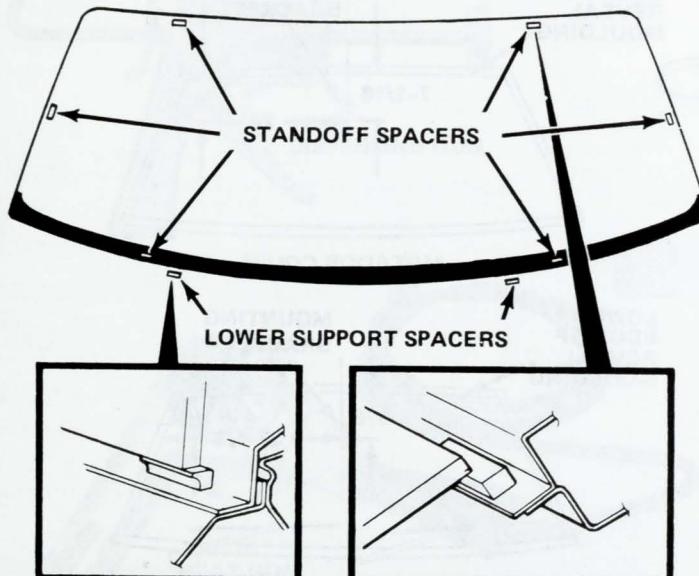
(15) Install inside rear view mirror on bracket and tighten setscrew to 15 inch-pounds torque.

Windshield Installation—Extended Method

(1) Using Electric Hot Knife J-24709-01 and Plow Blade J-24851, remove old adhesive material from window flange around entire opening.

(2) Inspect reveal moulding retaining clips. Replace broken or excessively loose clips.

(3) Install lower support spacers (water soluble) and standoff spacers (fig. 3N-13).



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Fig. 3N-13 Installation of Lower Support and Standoff Spacers

(4) Lift glass into window opening and support it on spacers.

(5) With glass positioned in opening, check relationship of glass to pinchweld flange around entire perimeter. Overlap of pinchweld flange should be equal. Gap between glass and pinchweld flange should be no less than $\frac{1}{8}$ inch, nor more than $\frac{1}{4}$ inch. Adjust gap by applying more adhesive material at excessive gap areas or reworking pinchweld flange.

(6) After final adjustments have been made and glass is in proper position, apply pieces of masking tape on glass at lower support spacers to provide exact locating when permanently installing glass. Cut tape below

glass, and remove and place glass on a protected bench or holding fixture.

(7) Apply one-inch wide masking tape to inside of glass, $\frac{1}{2}$ -inch inboard from edge of glass; apply tape to top and sides (fig. 3N-11). Do not apply tape across the bottom.

NOTE: Removal of tape after glass installation will aid in cleanup and give a smooth, even edge to adhesive material.

(8) Using isopropyl alcohol dampened rag, wipe surface of glass to which bead of adhesive material will be applied (between masking tape and including edge of glass).

(9) Using dauber, apply $\frac{1}{2}$ -inch band of blackout primer around entire inside edge of glass and outer edge. Allow primer to dry for 10 minutes.

CAUTION: Use care to avoid spilling blackout primer on trim or painted surfaces. Wipe spills immediately as primer will etch trim or painted surfaces.

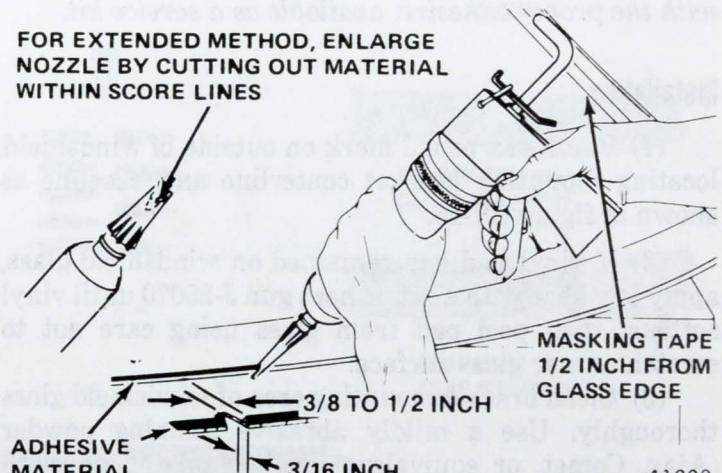
NOTE: If pinchweld flange has been repainted, prime pinchweld flange with paint finish primer (available as a service part), and allow to dry 20 minutes. **Do not use blackout glass primer on pinchweld flange.**

(10) With adhesive gun in position, carefully apply smooth, continuous bead of adhesive material $\frac{3}{8}$ - to $\frac{1}{2}$ -inch high by $\frac{3}{16}$ -inch wide completely around inside edge of glass (fig. 3N-14).

NOTE: Adhesive material begins to cure after 15-minute exposure to air.

NOTE: For extended method, enlarge nozzle opening by cutting on score lines (fig. 3N-14).

(11) Using tape guides, carefully position glass in window opening.



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Fig. 3N-14 Adhesive Material Application—Extended Method

NOTE: When installing windshield glass, guide outer lower surface of glass along rear edge of front fenders making certain glass is properly centered and positioned on lower support spacers.

(12) Press glass to wet-out and set adhesive material. Use care to avoid excessive squeeze-out.

(13) Water test windshield immediately using cold water spray. Allow water to spill over edges of glass. Do not direct hard stream of water on fresh adhesive material. If leaks are encountered, apply extra adhesive material at leak point.

(14) Install window reveal mouldings and remove masking tape from inner surface of glass.

(15) Install all other previously removed parts and cleanup with cloth dampened with Grom Chemical Solvent GS-35, or equivalent.

(16) Install inside rear view mirror on bracket and tighten setscrew to 15 inch-pounds torque.

WINDSHIELD MOUNTED REAR VIEW MIRROR BRACKET

The inside rear view mirror bracket is bonded directly to the windshield glass with a polyvinyl-butylal compound through a heat-induction process.

Service replacement windshield glass may have the rear view mirror bracket bonded to the windshield glass. In this case the mirror is simply transferred from the unserviceable windshield to the bracket on the replacement windshield.

If the replacement windshield does not have the mirror bracket bonded to it, or if on serviceable windshields the bracket has been lost, a service kit is available for bracket installation. The kit can be obtained from an AMC parts distribution center and consists of a replacement bracket and firm-setting, two-component adhesive. Installation instructions are included in this section, as well as in the kit.

NOTE: Do not attempt to remount the original bracket. For best results use the replacement bracket, with the proper adhesive, available as a service kit.

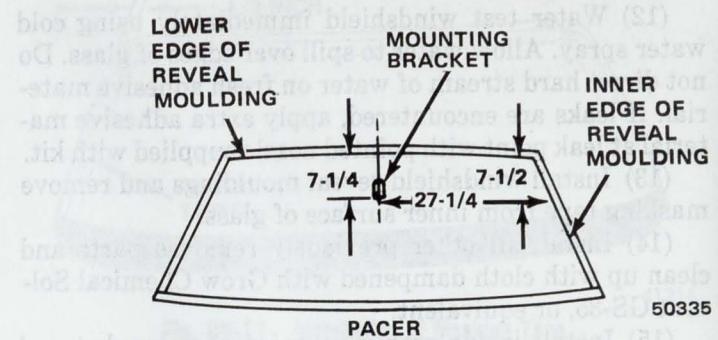
Installation

(1) Place wax pencil mark on outside of windshield, locating mounting bracket centerline and baseline as shown in figure 3N-15.

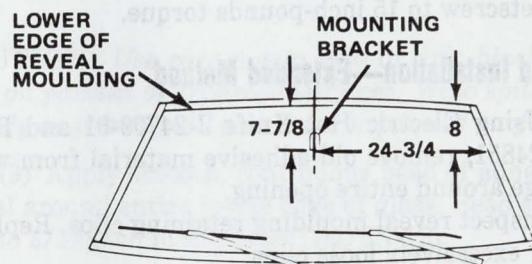
(2) If vinyl pad has remained on windshield glass, apply low heat with electric heat gun J-25070 until vinyl softens, then peel pad from glass using care not to scratch or mar glass surface.

(3) Clean bracket mounting area of windshield glass thoroughly. Use a mildly abrasive cleaning powder (Ajax, Comet, or equivalent) applied to a clean cloth saturated with alcohol.

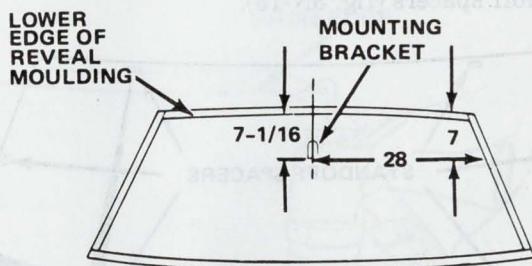
(4) Remove all traces of cleanser by wiping area with a paper towel moistened with alcohol.



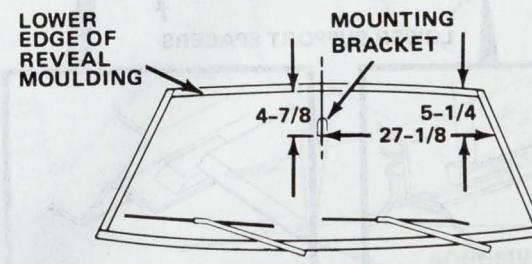
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GREMLIN - CONCORD - AMX



MATADOR COUPE



MATADOR SEDAN AND STATION WAGON

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Fig. 3N-15 Windshield Mounted Rear View Mirror Bracket Location Measurements (Inches)

(5) Scuff bonding surface (the side without 3/8-inch circular depression) of mirror bracket with a clean piece of 220 grade sandpaper. Apply alcohol to a clean towel and wipe surface clean.

CAUTION: Do not touch surfaces to which accelerator has been applied; an imperfect bond could result.

(6) Apply a generous amount of accelerator, supplied with kit, to mirror bracket mounting surface. Allow five minutes to dry.

(7) Apply a thin film of accelerator to windshield. Allow one minute to dry.

(8) Apply one drop of adhesive at center of mirror bracket bonding surface. Use bottom of adhesive tube to distribute adhesive evenly over entire surface.

(9) Position bottom straightedge of bracket on horizontal line, while centering bracket on vertical line (fig. 3N-15). Press bracket to glass and hold firmly for one minute. Be sure bracket is properly located; adhesive sets quickly.

SPECIFICATIONS

Torque Specifications

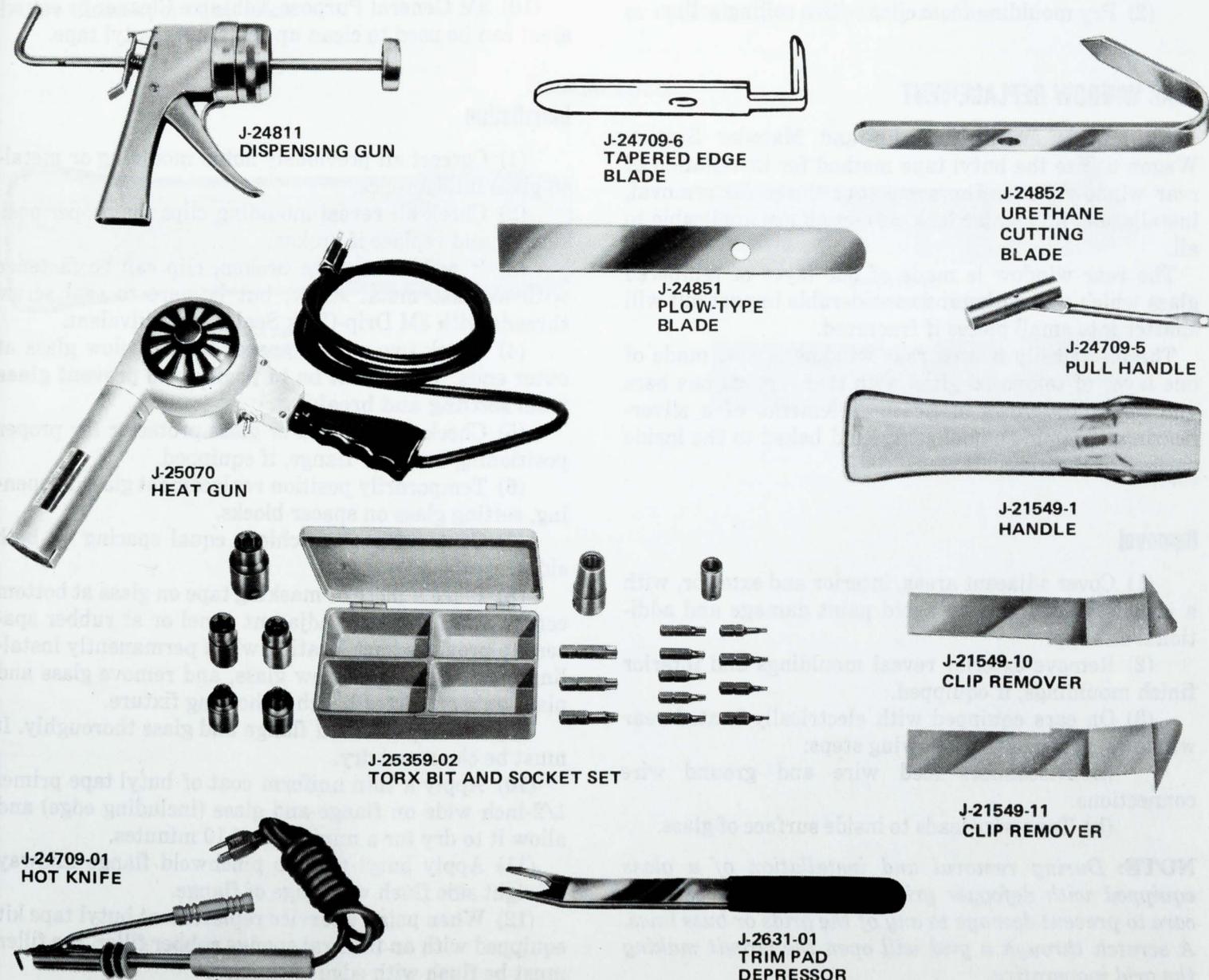
Service Set-To Torques should be used when assembling components. **Service In-Use Recheck Torques** should be used for checking a pre-torqued item.

	Metric (N·m)	USA (in.lbs.)		
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
Rear View Mirror Setscrew	2	1-2	15	12-20

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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Special Tools



REAR WINDOW

	Page	Page
Rear Window Replacement	3N-10	Special Tools
Reveal Mouldings	3N-10	3N-11

REVEAL MOULDINGS

The reveal mouldings are L-shaped with a lip edge which engages a barb on the plastic retaining clips.

The clips are set onto studs which are welded around the rear window openings at intervals of 5 to 6 inches, starting at the first clip which is approximately 2 inches from each corner.

Removal

Remove the reveal mouldings using Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11.

- (1) Insert tool between glass and moulding parallel with glass.
- (2) Pry moulding from clips with a rolling action.

REAR WINDOW REPLACEMENT

All models except Gremlin and Matador Station Wagon utilize the butyl tape method for installation of rear window glass. The same procedures for removal, installation, and water leak correction are applicable to all.

The rear window is made of one layer of tempered glass which will withstand considerable impact but will shatter into small pieces if fractured.

The electrically heated rear window is also made of one layer of tempered glass with two vertical bus bars and horizontal rows of heating elements of a silver-bearing, ceramic-enamel compound baked to the inside surface of the glass.

Removal

(1) Cover adjacent areas, interior and exterior, with a protective covering to avoid paint damage and additional cleanup.

(2) Remove exterior reveal mouldings and interior finish mouldings, if equipped.

(3) On cars equipped with electrically heated rear windows, perform the following steps:

(a) Disconnect feed wire and ground wire connections.

(b) Tape wire leads to inside surface of glass.

NOTE: During removal and installation of a glass equipped with defogger grids, protect or use extreme care to prevent damage to any of the grids or buss lines. A scratch through a grid will open the circuit making the grid inoperative.

- (4) Slowly push glass outward along top, applying foot pressure until butyl tape stretches 1 to 2 inches.
- (5) Have an assistant cut stretched butyl tape with scissors.
- (6) Apply pressure and cut butyl tape around complete glass.
- (7) Use wood spacer blocks to keep glass separated from opening as butyl tape will again adhere to flange or glass upon contact.
- (8) Remove all butyl tape from glass opening flanges by grasping tape near flange and pulling it directly away.
- (9) Form a ball with removed butyl tape and use it to daub and lift off remaining butyl tape.
- (10) 3M General Purpose Adhesive Cleaner or equivalent can be used to clean up remaining butyl tape.

Installation

- (1) Correct all previously noted moulding or metal-to-glass interference.
- (2) Check all reveal moulding clips for proper positioning and replace if broken.
- (3) If weld studs are broken, clip can be fastened with a sheet metal screw, but be sure to seal screw threads with 3M Drip-Chek Sealer, or equivalent.
- (4) Check two rubber spacer blocks below glass at outer ends. **They must be in position to prevent glass from settling and breaking.**
- (5) Check anti-squeak or glass protector for proper positioning on lower flange, if equipped.
- (6) Temporarily position replacement glass in opening, setting glass on spacer blocks.
- (7) Center glass to achieve equal spacing on both sides.
- (8) Place a piece of masking tape on glass at bottom center extending over adjacent panel or at rubber spacers to provide exact locating when permanently installing glass. Cut tape below glass, and remove glass and place on a protected bench or holding fixture.
- (9) Clean pinchweld flange and glass thoroughly. It must be clean and dry.
- (10) Apply a thin uniform coat of butyl tape primer 1/2-inch wide on flange and glass (including edge) and allow it to dry for a minimum of 10 minutes.
- (11) Apply butyl tape to pinchweld flange midway up right side flush with edge of flange.
- (12) When using a service replacement butyl tape kit equipped with an integral sponge rubber filler, the filler must be flush with edge of flange.

(13) Strip off paper liner as tape is being applied.
 (14) Cut tape ends at 45° angles downward and to the outside and join ends.

(15) Place glass in opening exactly in alignment with masking tape markers as primer on glass will adhere with butyl tape immediately on contact.

(16) Firmly press glass to butyl tape using hand pressure.

(17) Carefully trim excess primer from glass with razor blade and wipe with cloth dampened in 3M General Purpose Adhesive Cleaner, or equivalent.

(18) Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact.

(19) Additional hand pressure is necessary in these areas and in most cases will provide a positive seal.

(20) Prior to installing reveal mouldings, water test around entire sealing area.

(21) Apply 3M Windo-Weld Resealant, or equivalent, with applicator gun to any open areas.

(22) Install all previously removed parts and clean up with cloth dampened with 3M General Purpose Adhesive Cleaner, or equivalent.

Water Leak Correction—Butyl Tape Installation

NOTE: It is not necessary to remove the glass to perform any of the sealing operations outlined below.

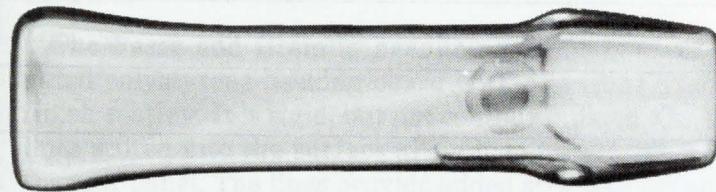
(1) Always begin water spray at the lowest point and allow sufficient saturation before moving water spray upward.

(2) To best simulate normal conditions that cause water leaks, i.e., rain or car wash, water test with a spray pattern rather than a heavy, solid stream of water which can create misleading symptoms.

(3) If leak has been located and found to be around the glass, remove reveal mouldings. Visually inspect butyl tape-to-glass contact. Dull spots indicate poor contact. Apply hand pressure to area to obtain a more positive seal. If necessary, apply 3M Windo-Weld Resealant, or equivalent, with a applicator gun for additional sealing of any open areas in the butyl tape.

(4) If any opening such as a weld burn exists, plug hole with butyl tape. Apply 3M Windo-Weld Resealant, or equivalent, to completely seal area.

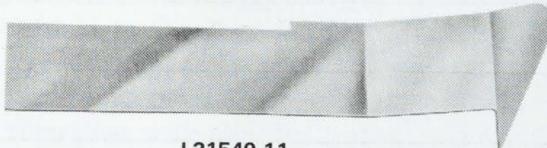
Special Tools



J-21549-1
HANDLE



J-21549-10
CLIP REMOVER



J-21549-11
CLIP REMOVER

HEADLINING- VINYL ROOF- EXTERIOR DECALS AND OVERLAYS

3P

SECTION INDEX

	Page		Page
Exterior Decals	3P-11	Headlinings	3P-1
Exterior Wood Grain Overlays	3P-14	Vinyl Roof	3P-4

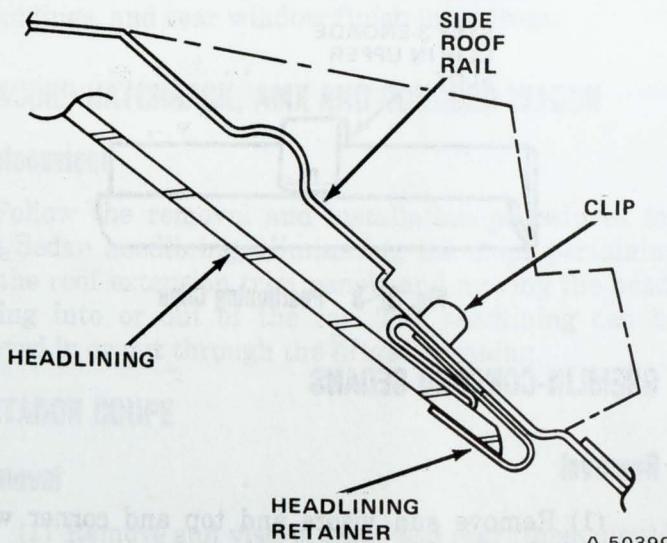
HEADLININGS

	Page		Page
General	3P-1	Matador Coupe	3P-3
Gremlin-Concord Sedans	3P-2	Matador Sedan and Station Wagon	3P-3
Concord Hatchback-AMX-Concord Wagon	3P-3	Pacer-Gremlin	3P-2

GENERAL

The Pacer and Gremlin headlining is made of laminated polystyrene backing board with a grained plastic finish coating. It is rigid, but not contour molded. Crease lines scored into the surface allow it to be shaped to fit the roof panel. The lines provide added strength for self-support. Headlining surfaces are color coordinated to harmonize with various trim combinations.

The headlining is retained on the side roof rails by headlining retainers (fig. 3P-1).



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Fig. 3P-1 Headlining Fastening at Side Roof Rails—Pacer

The Concord and AMX headliner is made of laminated polystyrene backing board with various material finish depending upon the trim options. This headliner is very rigid, and contour molded. The surfaces are color coordinated to harmonize with various trim combinations.

The Gremlin and Concord models have headlinings which are formed into a single panel which extends from the windshield to the rear window and is retained at either end by the upper finish mouldings.

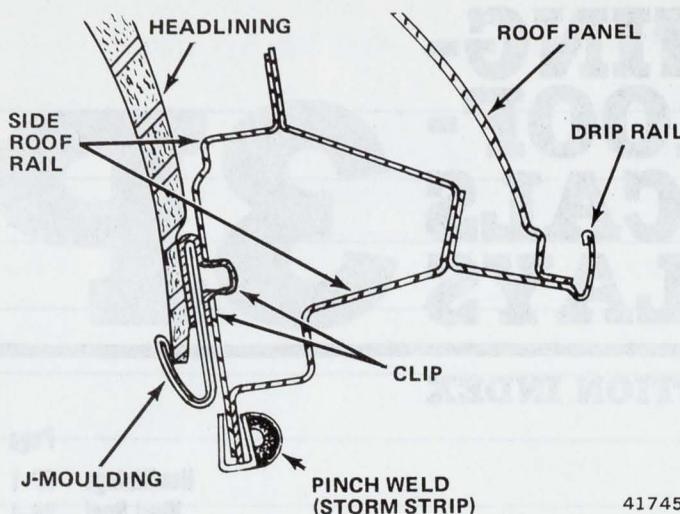
The headlining used in the Matador Models is of molded fiberglass with excellent sound deadening qualities. The finish surface is a fiberglass cloth or material depending upon the trim options. The surfaces are color coordinated to harmonize with various trim combinations.

The headlinings of all Gremlins, Conards and Matador Sedans and Station Wagon models are retained on the sides by one-piece, J-mouldings which extend the entire length of the headlining (fig. 3P-2).

The Matador Coupe headlining is retained on the side roof rails by short pieces of J-mouldings, covered with color coordinated interior trim mouldings.

The Matador Station Wagon headlining consists of a front and rear section. The front section extends from the top of the windshield to above the rear seat back. It is retained along the side roof rails, above the doors, with J-shaped mouldings.

The rear section extends from the joint above the rear seat back to the tailgate opening where it is retained along the rear by the finish moulding. It is retained



**Fig. 3P-2 Headlining Fastening at Side Roof Rails—
Gremlin-Concord-Matador Sedan and Station Wagon**

along the sides, above the rear quarter windows, with J-mouldings.

A cover moulding, painted to match the headlining, is used at the joint formed by the front and rear headlinings and is retained by four spring steel clips which are fastened to the roof support by spring tension. The ends are inserted into the J-mouldings or headlining retainers.

PACER

Removal

- (1) Remove sun visors, sun visor retaining bracket, and top and corner windshield finish mouldings.
- (2) Remove liftgate finish moulding and dome lamp.
- (3) Remove right and left side finish mouldings.

CAUTION: Be careful not to soil, bend, or crack headlining.

(4) Using a straight-bladed screwdriver, insert blade between retainer and roof rail. Rotate screwdriver to pop retainer clip out of hole in roof side rail. Remove front and rear retainers on right or left side.

(5) Lower headlining on left side and disengage right side by raising it up and out of headlining retainers.

(6) Remove headlining from car through liftgate opening.

Installation

There are two slotted holes in headlining retainer, one above the other. A projection or barb on the clip (fig. 3P-3) is engaged in the lower hole when the headlining is removed from the car. The clips must be positioned to engage the upper holes on both headlining retainers before installing the headlining (fig. 3P-3).

(1) Roll headlining so that center is bowed downward to reduce overall width. Place headlining against roof panel and install left side of headlining into J-moulding. Carefully feed right side into J-moulding and at the same time gently push rolled area toward roof panel.

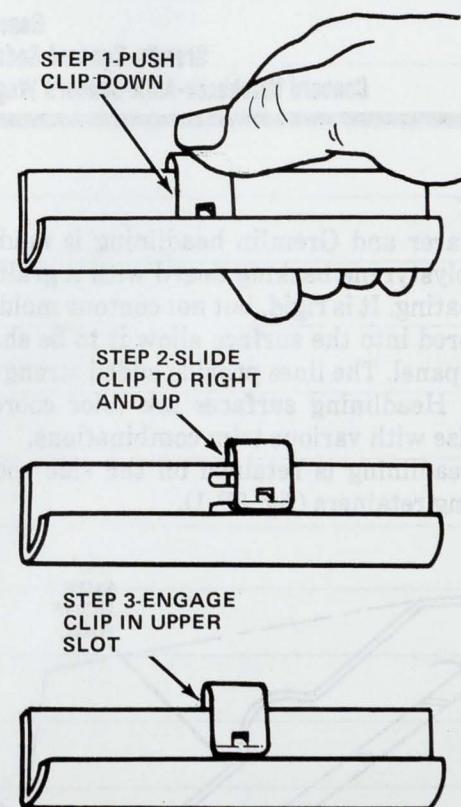
Carefully bend headlining at side, front, and rear crease lines.

(2) When installing, material at sides must overlap material at front and rear to obtain proper appearance and fit.

(3) Using sun visor holes as guides, check for correct location of headlining. Adjust fore and aft if necessary.

(4) Push up on retainers at each clip location to engage bars on clips with lower holes in headlining retainers.

(5) Install dome lamp, sun visors, sun visor retaining bracket, windshield finish mouldings, liftgate finish mouldings, and right and left side finish mouldings.



50400

Fig. 3P-3 Positioning Clips

GREMLIN-CONCORD SEDANS

Removal

(1) Remove sun visors and top and corner windshield finish mouldings.

(2) Remove rear window finish moulding and clips, coat hooks, and dome light.

(3) On Concord Sedans, remove four top screws from roof extension trim panels.

(4) Insert cord in top hole of each panel and tie together to hold at a 45° angle toward center of car.

CAUTION: Take care at all times to prevent soiling, sharp bending, or cracking of the headlining.

(5) Insert a flat screwdriver blade under right side J-moulding. Locate and pry out three snap-in clips that retain J-moulding to side roof rail.

(6) Lower headlining on right side and disengage left side by raising it up and out of J-moulding.

(7) Remove headlining from vehicle.

Installation

At each clip location there are two slotted holes in the J-moulding, one above the other. A projection or barb on the clip is engaged in the lower hole when the moulding is removed from the vehicle. The clips must be repositioned to engage the upper holes in all headlining retainers before installing the mouldings to the side roof rails (fig. 3P-3).

(1) Install both J-mouldings to side roof rails.

(2) Carefully roll headlining so that center is bowed to reduce overall width. Place headlining against roof panel and install left side into J-moulding. Carefully feed right side into J-moulding and at the same time gently pushing rolled area toward roof panel.

(3) When installing, material at sides must overlap material at front and rear to obtain proper appearance and fit.

(4) With both edges in J-mouldings, push up on center. Headlining will pop into position.

(5) Using sun visor holes as guides, check for correct location of headlining. Adjust fore and aft if necessary.

(6) Push up on J-moulding at each clip location to engage barbs on clips with lower holes in J-mouldings.

(7) Install dome lamp, sun visors, windshield finish mouldings, and rear window finish mouldings.

CONCORD HATCHBACK, AMX AND CONCORD WAGON

Replacement

Follow the removal and installation procedures for the Sedan headlining, eliminating the steps pertaining to the roof extension trim panels and moving the headlining into or out of the car. The headlining can be moved in or out through the liftgate opening.

MATADOR COUPE

Removal

(1) Remove sun visors, front and rear finish mouldings, headlining left and right side mouldings, coat hooks, B-pillar trim attaching screws and dome lamp.

CAUTION: Be careful not to soil, bend, or crack headlining.

(2) Using straight-bladed screwdriver, insert blade between retainer and roof rail. Rotate screwdriver to pop retainer clips out of hole in roof side rail. Remove front and rear retainers on either right or left side.

(3) Lower headlining and remove through right front door opening.

Installation

There are two slotted holes in the headlining retainer, one above the other. A projection or barb on the clip (fig. 3P-3) is engaged in the lower hole when the headlining is removed from the car. The clips must be positioned to engage the upper holes in all headlining retainers before installing the headlining.

(1) Center headlining in car.

(2) Insert left edge into headlining retainer and, while holding it in place, grasp headlining through dome lamp opening to guide the right edge into the headlining retainers.

(3) Using sun visor holes as guides, check for correct location of headlining. Adjust fore and aft, if necessary.

(4) Push up on retainers at each clip location to engage barbs on clips with lower holes in headlining retainers.

(5) Install dome lamp, B-pillar trim attaching screws, coat hooks, headlining left and right side mouldings, front and rear finish mouldings, and sun visors.

MATADOR SEDAN AND STATION WAGON

Front Section Removal

(1) Remove sun visors, rear view mirror, windshield and rear window finish mouldings, coat hooks, and dome light on all models.

(2) On 4-door Sedans, remove front seat assembly, right front door, and steering wheel in order to move headlining into or out of car.

(3) Remove rear window finish moulding on Sedan models.

(4) On Station Wagon models, remove the joint cover moulding.

The C-shaped joint cover moulding (fig. 3P-4) is retained to roof support rafter by spring steel clips which snap over an embossment in the roof support rafter.

NOTE: The larger rolled flange of the joint cover moulding is installed to the rear of the car.

(5) On Station Wagons, remove J-moulding screw and joint cover and pry ends of headlining joint moulding from the J-mouldings.

(6) Pry joint cover moulding down at rear side to disengage retaining clips from embossing on roof support rafter. Clips will remain in moulding.

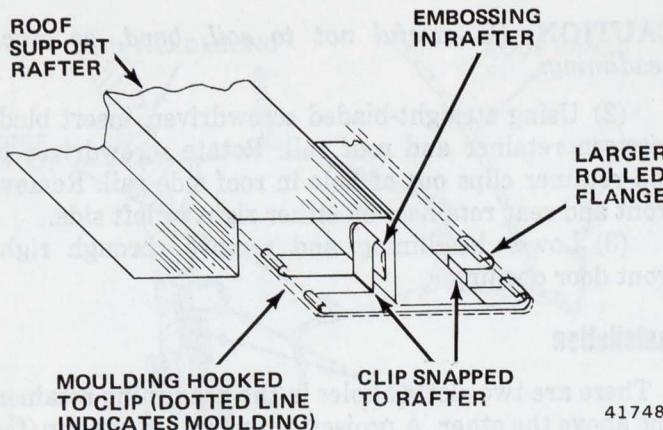


Fig. 3P-4 Joint Cover Moulding—Matador Station Wagon

(7) Insert and slide a screwdriver under J-moulding, along right side roof rail, to locate each snap-in clip. Pry each clip away from right side roof rail.

(8) Lower headlining on right side and disengage left side of headlining by carefully raising it up and out of J-moulding.

(9) On those models using adhesive for added retention, break adhesive bond very carefully to prevent bending or cracking of headlining.

(10) Carefully tip headlining diagonally to remove it through front door opening.

(11) Remove front section of headlining through tailgate opening on Station Wagon models.

CAUTION: Care must be exercised at all times to prevent soiling, sharp bending, or cracking of the headlining.

Rear Section Removal

(1) Remove joint cover moulding, tailgate opening header moulding and J-mouldings above rear quarter windows.

(2) Remove headlining through tailgate opening.

Front and Rear Section Installation

At each clip location there are two slotted holes in the J-moulding, one above the other. A projection or barb on the clip is engaged in the lower hole of the J-moulding when it is removed.

The clips must be repositioned to engage the upper holes on both J-mouldings before installing the moulding to the side roof rail (fig. 3P-3).

- (1) Install mouldings to side roof rail.
- (2) Center headlining in car and carefully insert left side of headlining into J-moulding.

(3) Be sure headlining is aligned by utilizing location of dome light, visor holes, and coat hook retaining screw holes.

(4) Raise right side and insert it into J-moulding. Rear edge of front headlining on Station Wagon models must sit above roof rafter flange for proper support and to facilitate installation of joint cover moulding clips. Front edge of rear headlining must sit above two extended prongs of joint cover moulding clips and headlining must be moved far enough forward to facilitate coverage by moulding.

(5) Align sun visor hole in headlining with visor hole in windshield header.

(6) Push up on J-moulding at each clip location to engage barbs on clips with lower holes in J-moulding.

NOTE: An audible click is an indication of positive engagement.

(7) Install all mouldings, rear view mirror, sun visors, coat hooks, dome light, and other parts removed.

Joint Cover Moulding Installation

(1) Insert one end of moulding into J-moulding with long vertical tab of clip to rear.

(2) Hook forward short vertical tab on roof support front flange and push up on moulding to engage rear tab with embossment on roof support.

(3) With a putty knife, pry remaining end of moulding into J-moulding and install J-moulding joint cover.

VINYL ROOF

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GENERAL

The vinyl roof is a water repellent fabric bonded to a vinyl coated irregular grained face cover material cut to patterns for each body panel.

PACER

Removal

Front Section

(1) Remove ornamentation mouldings, drip moulding covers, clips, and luggage rack, if equipped.

NOTE: It is not necessary to remove the windshield.

(2) Remove all sealing material around openings to expose vinyl top edges.

(3) Mask cowl top, sides of car, center and rear of top, and windows with paper to prevent unnecessary cleanup. Use closed windows to hold paper in place.

(4) Loosen drive nails or staples by prying with a screwdriver or other suitable tool.

NOTE: Do not confuse reveal moulding clip weld studs for trim nails.

(5) Use a diagonal cutter or pliers to remove nails or staples.

(6) Peel vinyl material from panel. Where it may be difficult to peel vinyl from panel, soak the adhesive next to the vinyl with a rag dampened with solvent such as 3M General Purpose Adhesive Cleaner, or equivalent. It is not necessary to remove old vinyl top adhesive; however, surface must be free of any irregularity to prevent highlighting after new vinyl material is installed.

WARNING: Always wear rubber gloves when working with solvents and be sure work area is well ventilated.

Rear Section

(1) Remove ornamentation moulding, clips, and luggage rack, if equipped.

(2) Remove all sealing material around openings to expose vinyl top edges.

(3) Remove liftgate from car and place on a protected bench or holding fixture as detailed in Chapter 3H.

(4) Mask center and front of top, sides of car, liftgate opening, and windows with paper to prevent unnecessary cleanup.

(5) Loosen drive nails or staples by prying with a screwdriver or other suitable tool.

NOTE: Do not confuse reveal moulding clip weld studs for trim nails.

(6) Use a diagonal cutter or pliers to remove nails or staples.

(7) Peel vinyl material from panel. Where it may be difficult to peel vinyl from panel, soak adhesive next to vinyl with a rag dampened with solvent such as 3M General Purpose Adhesive Cleaner, or equivalent. It is not necessary to remove old vinyl top adhesive. However, surfaces must be free of any irregularity to prevent highlighting after a new vinyl material is installed.

WARNING: Always wear rubber gloves when working with solvents and be sure work area is well ventilated.

Door

(1) Remove ornamentation mouldings, clips, and vinyl retainers (fig. 3P-5).

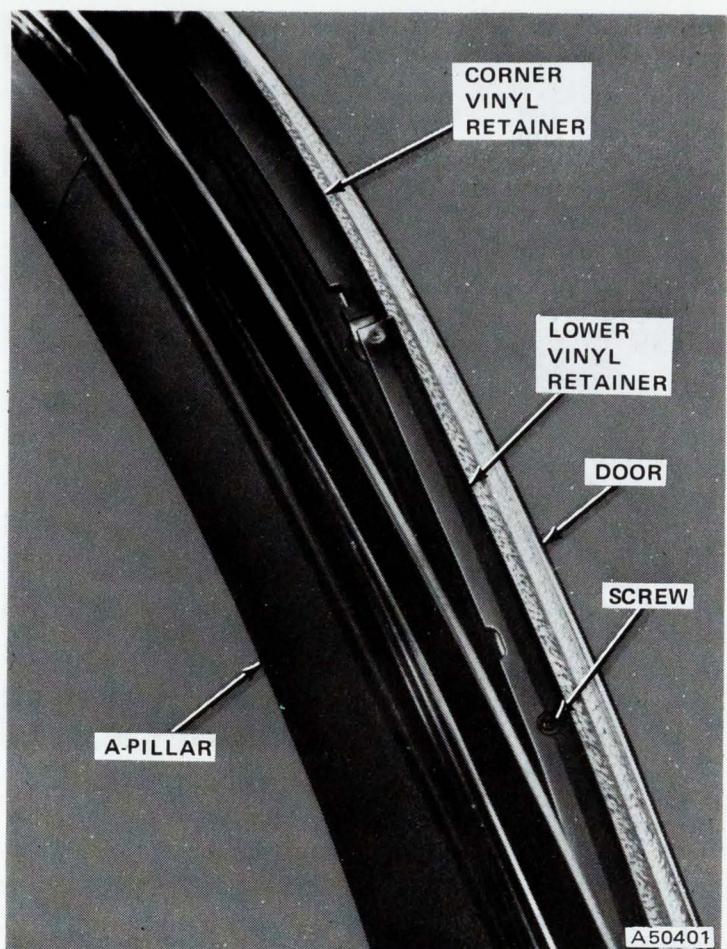


Fig. 3P-5 Removing Vinyl Retainers from Door—Pacer

(2) Mask top of car, side of car, door opening, and windows with paper to prevent unnecessary cleanup. Use closed windows to hold paper in place.

(3) Peel vinyl material from panel. Where it may be difficult to peel vinyl from panel, soak adhesive next to vinyl with a rag dampened with solvent such as 3M General Purpose Adhesive Cleaner, or equivalent. It is not necessary to remove old vinyl top adhesive. However, surfaces must be free of any irregularity to prevent highlighting after new vinyl material is installed.

WARNING: Always wear rubber gloves when working with solvents and be sure work area is well ventilated.

Liftgate

(1) Remove liftgate from car and place on a protected bench or holding fixture (refer to Chapter 3H).

(2) Remove ornamentation mouldings, clips, and vinyl retainers (fig. 3P-6) from liftgate.

(3) Mask both sides of liftgate area below window opening and window with paper to prevent unnecessary cleanup.

(4) Remove washer nozzle, if equipped.

(5) Peel vinyl material panel. Where it may be difficult to peel vinyl from panel, soak adhesive next to vinyl with a rag dampened with solvent such as 3M General

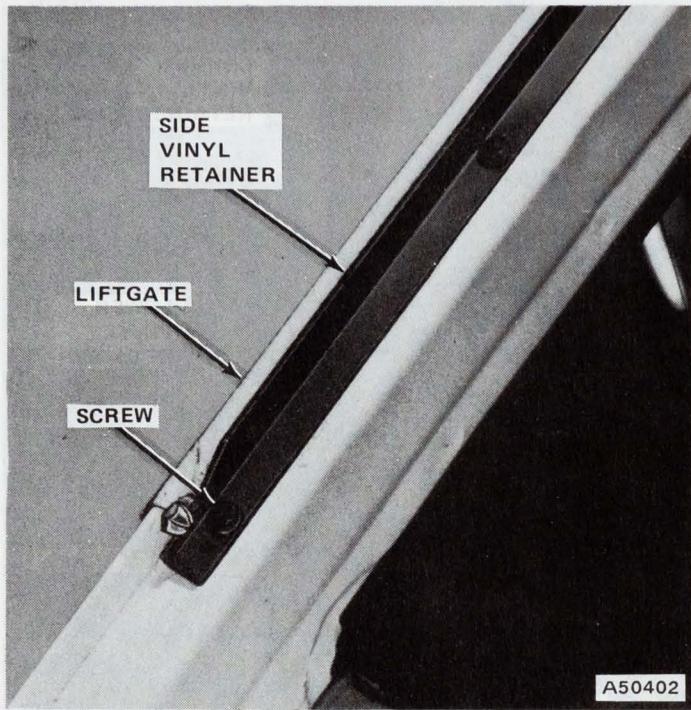


Fig. 3P-6 Removing Vinyl Retainers from Liftgate—Pacer

Purpose Adhesive Cleaner or equivalent. It is not necessary to remove old vinyl top adhesive. However, surface must be free of any irregularity to prevent highlighting after new vinyl cover is installed.

WARNING: Always wear rubber gloves when working with solvents and be sure work area is well ventilated.

Installation

Front Section

- (1) Wipe all dust and foreign matter from roof panel.
- (2) Position vinyl material upside down on rear roof area.
- (3) Apply a smooth, even coat of 3M Vinyl Trim Adhesive, or equivalent, to roof panel and vinyl.
- (4) Allow adhesive on vinyl and roof panel to dry until adhesive is dry to the touch.
- (5) Using moulding holes as a starting line, apply vinyl to roof panel. roller or a soft cloth to ensure a positive bond and to eliminate air pockets.
- (6) With a smooth fiber stick, work vinyl into crease lines along roof edge and A-pillar.
- (7) Insert drive nails through vinyl into original holes at windshield opening.
- (8) Trim excess material from roof edges, A-pillar, and windshield opening.
- (9) After cleanup (using any of the previously listed solvents) and removal of all masking tape and paper, install previously removed mouldings.
- (10) Install luggage rack, if equipped.
- (11) Install drip moulding covers.

Rear Section

- (1) Wipe all dust and foreign matter from roof panel.
- (2) Position vinyl upside down on front of roof area.
- (3) Apply a smooth, even coat of 3M Vinyl Trim Adhesive, or equivalent, to roof panel and vinyl.
- (4) Allow adhesive on vinyl cover and roof panel to dry until adhesive is dry to the touch.
- (5) Using moulding holes as a starting line, apply vinyl to roof panel. Use a roller or a soft cloth to ensure a positive bond and to eliminate air pockets.
- (6) With a smooth fiber stick, work vinyl into crease lines along roof edge.
- (7) Insert drive nails through vinyl into original holes at liftgate opening.
- (8) Trim excess material from roof edges and liftgate opening.
- (9) After cleanup, using 3M General Purpose Adhesive Cleaner, or equivalent, and removal of all masking tape and paper, install previously removed mouldings.
- (10) Install luggage rack, if equipped.
- (11) Install liftgate on car as detailed in Chapter 3H.

Door

- (1) Wipe all dust and foreign matter from inside and outside of door.
- (2) Position vinyl upside down on clean work surface.
- (3) Apply a smooth, even coat of 3M Vinyl Trim Adhesive, or equivalent, to appropriate area of open door and vinyl.
- (4) Allow adhesive on vinyl and door to dry until adhesive is dry to the touch.
- (5) Apply vinyl to door, aligning vinyl to door outer frame character line. Use a roller or a soft cloth to ensure a positive bond and to eliminate air pockets.
- (6) Notch vinyl to make inside radius smooth and fold vinyl around hem.
- (7) Trim excess material from door edge and window opening.
- (8) Install plastic vinyl retainers securing inside edge of vinyl to door.
- (9) After cleanup, using 3M General Purpose Adhesive Cleaner, or equivalent, and removal of all masking tape and paper, install previously removed mouldings.

Liftgate

- (1) Wipe all dust and foreign matter from inside and outside lifgate.
- (2) Position vinyl upside down on a clean work surface.
- (3) Apply a smooth, even coat of 3M Vinyl Trim Adhesive, or equivalent, to appropriate area of liftgate and vinyl.
- (4) Allow adhesive on vinyl and liftgate to dry until adhesive is dry to the touch.

(5) Apply vinyl to liftgate, aligning vinyl to top edge of liftgate frame. Use a roller or a soft cloth to ensure a positive bond and to eliminate air pockets.

(6) Trim excess material from liftgate window opening. Cut notches at weld studs.

(7) Install vinyl retainers securing top and sides of the inside edge of vinyl to liftgate.

(8) After cleanup, using 3M General Purpose Adhesive Cleaner, or equivalent, and removal of all masking tape and paper, install previously removed mouldings.

(9) Install washer nozzle, if equipped.

(10) Install liftgate on car as detailed in Chapter 3H.

Bulges or Blisters

Bulges or blisters in the vinyl material are indications of poor bonding or trapped air. These can be eliminated by piercing the bulges or blisters to expel the air and heating the area 10 to 15 seconds with a Heat Gun J-25070. The Heat Gun should be held 10 to 15 inches from the material.

Immediately press and hold vinyl material firmly against metal with a felt pad or a roller until it cools.

NOTE: Do not rub vinyl because rubbing will result in a polished area.

Original Installation Procedure

Installation of a vinyl roof may be made on cars which did not have the vinyl roof as original equipment. It is necessary to first locate (but not install) the mouldings which cover the trim lines of the vinyl roof by using the outline of the mouldings as a template for centering and locating the moulding clip holes. Centerpunch and drill the moulding clip holes which can then be used as guides for adhesive application and trimming of excess vinyl material.

Install the vinyl material as previously described.

MATADOR COUPE WITH BARCELONA TRIM

The Barcelona has a landau styled padded vinyl roof. The removal and installation procedures for the Barcelona vinyl roof are as follows:

Removal

(1) Remove lower backlight moulding fasteners. Remove remaining mouldings and clips with Reveal Moulding Remover Tool J-21549-1, J-21549-10, or J-21549-11.

(2) Remove headliner as outlined above. Remove fasteners from upper roof moulding where it attaches to roof. Continue around roof panel inserting Trim Pad Depressor J-2631-01 between the panel and moulding. Work back and forth gradually over the area to reduce possibility of defacing either panel or moulding until trim is free.

(3) Remove mylar surround moulding from quarter window filler panel.

(4) Remove vinyl top material carefully to reduce damage to pad.

(5) Peel vinyl material from panel.

NOTE: If difficulty is encountered when peeling the vinyl from the panel, soak the adhesive next to the vinyl with a rag dampened with solvent such as 3M General Purpose Adhesive Cleaner, or equivalent. It is not necessary to remove old vinyl top adhesive; however, surface must be free of any irregularity to prevent highlighting after replacement vinyl material is installed.

(6) Remove top pad, cleaning residue adhesive with 3M General Purpose Adhesive Cleaner, or equivalent.

(7) Remove body filler around quarter window filler panel (fig. 3P-7) to expose pop rivets.

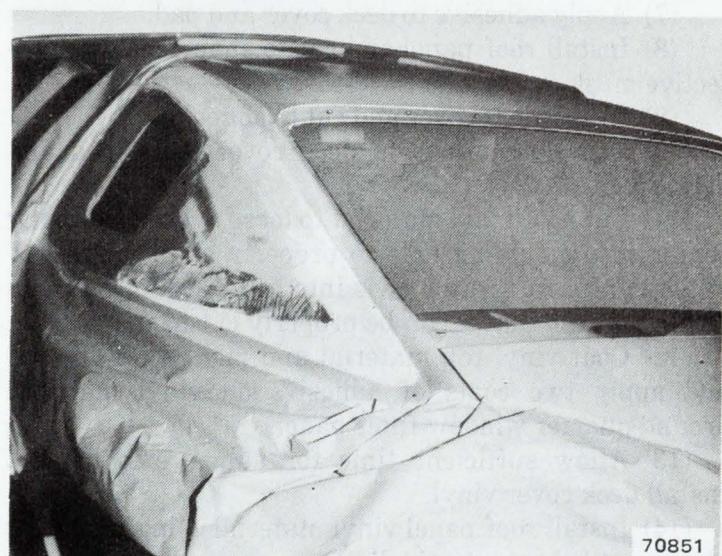


Fig. 3P-7 Rear Quarter Window Filler Panel—

Matador Coupe With Barcelona Trim

(8) Drill out quarter window filler panel pop rivets and remove panel.

(9) Remove upper deck cover trim moulding and welting.

NOTE: Carefully lift moulding to minimize the possibility of damage to paint.

(10) Carefully remove deck cover vinyl material to reduce pad damage.

(11) Remove deck cover pad. Residual adhesive can be removed by using 3M General Purpose Adhesive Cleaner, or equivalent.

(12) Remove stationary quarter window.

Installation

NOTE: Remove all foreign material from the roof panel before installing pad.

(1) Install quarter window filler panel to roof with pop rivets. Apply a bead of RTV Silicone Sealer in window opening between the body and filler panel extending bead 6 inches up B-pillar to reduce water leaks under vinyl top.

(2) Install stationary quarter window.

(3) Apply plastic body filler (for best results, mix plastic body filler and hardener according to manufacturer's instructions) between roof and filler panel. Shape filler to achieve a smooth transition between both panels.

(4) Apply a protective mask just beyond locating holes around perimeter of vinyl top.

(5) Install a protective mask or adhesive shield over quarter window and backlight glass.

(6) Apply a smooth, even coat of 3M Vinyl Trim Adhesive, or equivalent, to roof panel and pad, allow adhesive to dry until tacky.

(7) Apply adhesive to deck cover and pad.

(8) Install roof panel and cut to shape, leaving protective mask on body.

(9) Install deck cover and cut to shape.

(10) Install adhesive on deck cover panel pad and deck cover.

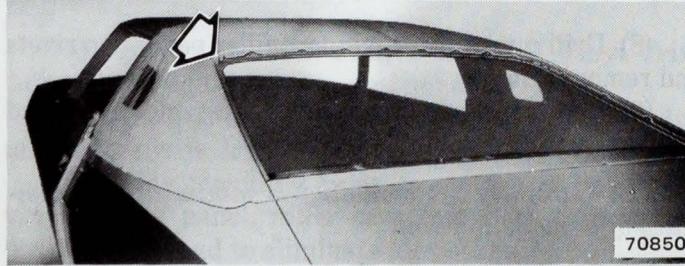
(11) Cut roof vinyl material to loose overall fit, using center roof moulding hole to properly align vinyl roof stitching. Insert scratch awls into holes of roof panel to retain vinyl so that it can be properly cut to shape.

(12) Coat vinyl top material and pad with adhesive and apply two coats of adhesive on vinyl material around quarter window filler panel.

(13) Allow sufficient time for adhesive to set up. Install deck cover vinyl.

(14) Install roof panel vinyl material using moulding placement holes as a guideline.

(15) Cut material to size around backlight glass opening. Cut notches into material at the upper corners of the window opening for proper fit (fig. 3P-8).



**Fig. 3P-8 Vinyl Top Pad Installation—
Matador Coupe With Barcelona Trim**

CAUTION: Do not cut notches too high as vinyl top extends higher than trim moulding and will be displayed if cut too close to roof.

(16) Cut vinyl to proper fit around outer top perimeter.

NOTE: Be sure vinyl is properly attached to minimize water leaks.

(17) Install grommets (if not already equipped) into trim holes around quarter panel, B-pillar and decklid. Apply 3M All-Around Autobody Sealant, or equivalent, in grommets.

(18) Install trim moulding clips around backlight glass opening.

(19) Heat vinyl material located in quarter window area with Heat Gun J-25070 to soften adhesive and vinyl. Using a soft shop towel, press vinyl against quarter window filler panel.

(20) Cut vinyl to proper size and wrap edges around inside of filler panel opening, check shape and fit as adhesive sets up.

(21) Apply bead of clear RTV silicone sealer around perimeter of the vinyl top and deck cover panel.

(22) Install roof trim moulding and welting. Start at bottom of B-pillar and work from that point over roof panel, and across quarter panel.

NOTE: It may be necessary to re-position a moulding stud. Bend stud to align with panel hole. Do not omit stud.

(23) Install upper roof cap moulding. Do not overtighten as excessive cap pulldown will deform roof panel and vinyl roof.

(24) Install deck cover moulding and welting, putting a coat of clear RTV silicone sealer over the seated stud assembly.

(25) Place quarter window mylar surround moulding into hot soapy water. When material is pliable, install moulding and cut to fit. Seal butt edge with a bead of clear RTV silicone sealer.

(26) Install back foam tape around perimeter of rear quarter trim panel window opening.

(27) Install headliner. Refer to outlined procedure above.

(28) Install interior trim panels. Refer to Rear Quarter.

(29) Install rear seats.

CONCORD-MATADOR

Removal

(1) Remove ornamentation mouldings and clips.

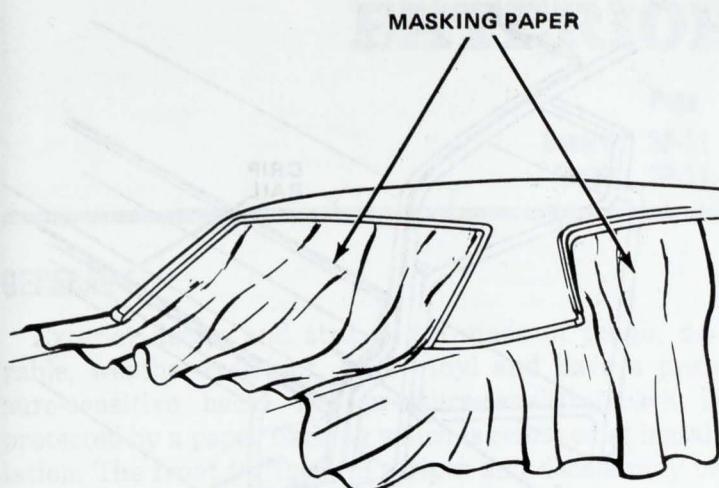
NOTE: It is not necessary to remove the windshields or rear windows.

(2) Remove all sealing material around openings to expose vinyl top edges.

(3) Mask cowl top, rear deck, sides of car, and windows with paper to prevent unnecessary cleanup (fig. 3P-9). Close windows to hold paper in place.

(4) Loosen drive nails or staples at dielectric seams by prying with a screwdriver or other suitable tool to loosen.

NOTE: Do not confuse reveal moulding clip weld studs for trim nails.



60224

Fig. 3P-9 Protective Masking

(5) Use a diagonal cutter or pliers to remove nail or staple.

CAUTION: Take care to prevent enlarging the nail holes.

(6) Work vinyl material loose at front pillars and along windshield header.

(7) Peel material and sealer out of drip rail. In some cases, it may be necessary to pry the sealer loose with a screwdriver or other suitable tool.

(8) Where it may be difficult to peel the roof covering from the roof, soak the adhesive next to the fabric with a rag dampened in solvent such as 3M General Purpose Adhesive Cleaner, or equivalent.

(9) It is not necessary to remove old vinyl top adhesive. However, it is important for surface to be free of any irregularities. Surfaces must be smooth to prevent highlighting after a new cover is installed.

WARNING: Always use rubber gloves when working with solvents. The work area must be well ventilated.

Installation

(1) Wipe all dust and foreign matter from roof panel.

(2) Mark a centerline on roof panel above windshield and rear window openings.

(3) Locate centerline of vinyl cover with centerline mark above windshield and rear window.

(4) Secure cover to pinch weld flange at centerline locations with tape.

(5) Check cover for alignment at both sides and at roof extension panels.

(6) Fold cover in half at centerline.

(7) Start at center and, working from front to rear, apply a smooth, even coat of 3M Vinyl Trim Adhesive, or equivalent to a 15-inch wide strip on roof panel and on vinyl cover.

(8) Allow adhesive on vinyl material and roof panel to dry until adhesive is tacky to the touch.

(9) Apply cover to roof from centerline toward side using a roller or a soft cloth to ensure a positive bond and to eliminate air pockets.

(10) Where necessary to remove wrinkles caused by folding, pull fabric taut while installing it on roof.

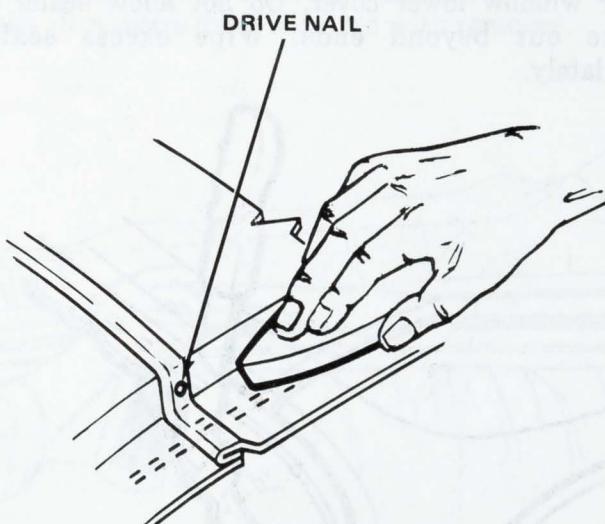
(11) Apply adhesive to remainder of cover and roof panel and down into drip moulding on one side.

(12) While waiting for adhesive to set, apply adhesive to a 15-inch wide section on opposite side of car.

(13) When applying cover to roof, always work from center to outside to eliminate air pockets and to provide positive bonding.

(14) Brush adhesive on cover and ledge of windshield and rear window opening and allow sufficient tack time before bonding.

(15) With a smooth fiber stick, work vinyl cover into crease line (fig. 3P-10).



60225

Fig. 3P-10 Working Vinyl into Crease Line

(16) Bond rear window lower vinyl panel into place.

(17) Insert drive nails through cover at dielectric seams into original holes at windshield and rear window opening (fig. 3P-11).

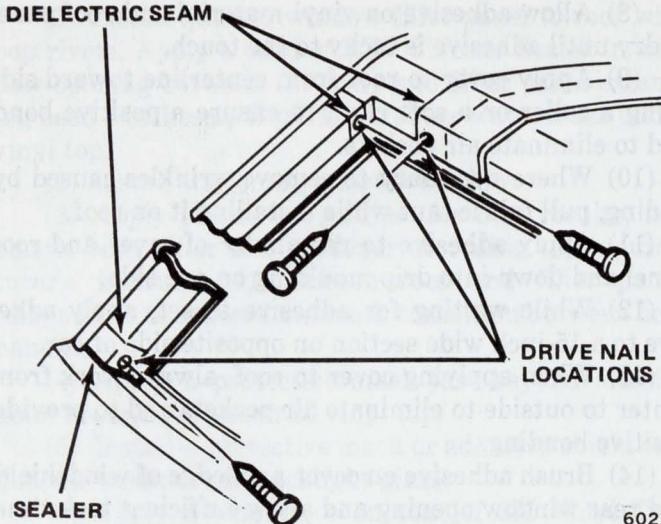
(18) Trim excess material off bottom end of windshield pillar cover extension, allowing 1/2 inch for fold-under.

(19) Fold to obtain a butt fit with cowl top except Matador Coupe.

(20) Bond cover to pillar and install drive nail or moulding.

(21) Trim excess fabric in drip rails at windshield and rear window and at belt line of roof extension panel so that moulding will cover end of fabric (fig. 3P-12).

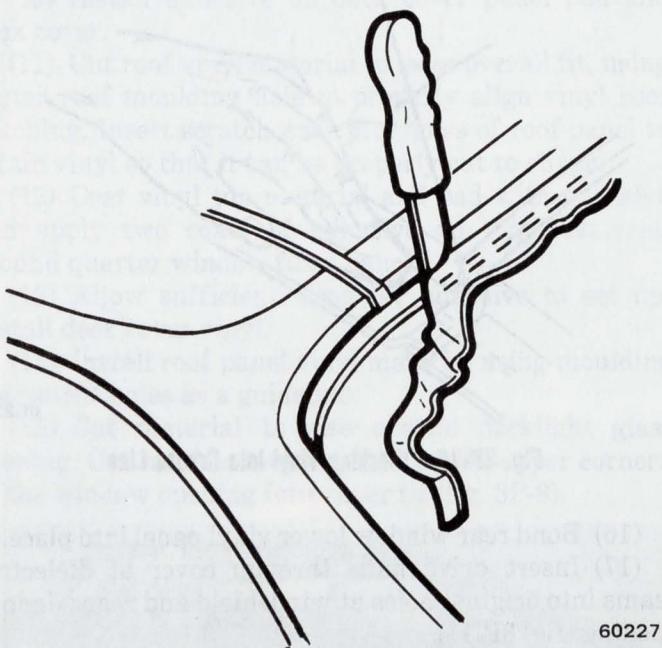
(22) Apply a small amount of Vinyl Top Sealer, or equivalent, (available in colors, at AMC parts warehouses) at lower edge of cover at windshield posts and at roof extension panel belt line. Do not apply beyond ornamentation moulding lines.



60226

Fig. 3P-11 Drive Nail Locations—Typical

(23) Apply a small amount of sealer under outer ends of rear window lower cover. Do not allow sealer to squeeze out beyond ends. Wipe excess sealer immediately.



60227

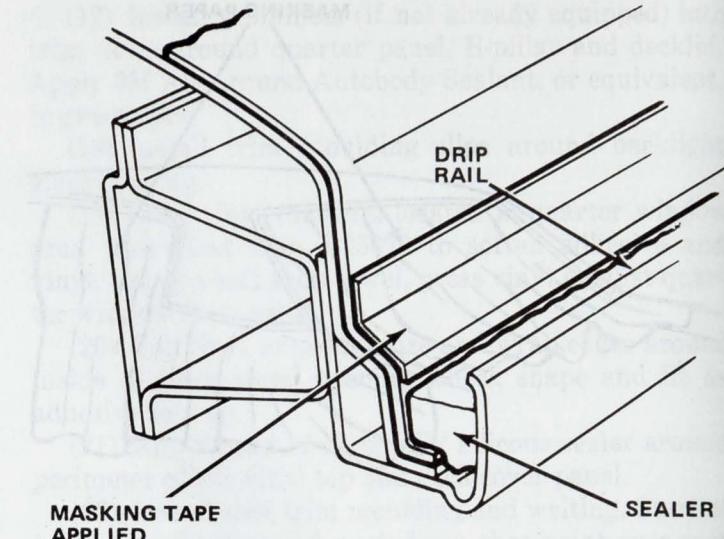
Fig. 3P-12 Trimming Excess Material

(24) Apply one-inch wide masking tape to roof cover the full length of drip rail with bottom edge of tape 1/4 inch below top edge of drip moulding (fig. 3P-13).

(25) Apply a smooth layer of sealer in drip rail to a minimum of 1/8-inch thick; 1/4-inch maximum.

(26) Make sure all edges of vinyl cover are sealed. Using a wooden or plastic stick, quickly smooth sealer where necessary, as sealer sets rapidly. Sealer will air-dry and remain pliable.

(27) After cleanup, using 3M General Purpose Adhesive Cleaner, or equivalent, and removal of all masking tape and paper, install windshield and rear window mouldings.



60228

Fig. 3P-13 Sealer in Drip Rail

BULGES OR BLISTERS

Bulges or blisters in the cover are indications of poor bonding or trapped air. These can be eliminated by piercing the bubble to expel the air. Heat the area 10 to 15 seconds with a Heat Gun J-25070, held 10 to 15 inches from the material.

Immediately press and hold vinyl material firmly against metal with a felt pad or a roller until it cools. Do not rub vinyl. Rubbing will result in a polished area.

ORIGINAL INSTALLATION PROCEDURE

Installation of a vinyl roof cover may be made on units which did not have the vinyl covering as original equipment. It is necessary to first locate (but not install) the mouldings which cover the trim lines of the vinyl top. Use the outline of the moulding as a template for centering and locating the moulding clip holes. Center-punch and drill the moulding clip holes which can then be used as guides for adhesive application and trimming of excess vinyl material.

Special Tools



70301

EXTERIOR DECALS

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GENERAL

Exterior decals and stripes are made of tough, durable, weather-resistant, solid vinyl and have a pressure-sensitive back. The pressure-sensitive back is protected by a paper backing which is removed at installation. The front (or face) of stripes and decals may be covered with an easy-release paper for protection during shipment or storage. The paper should be removed after installation.

REPAIRS

Small nicks or scratches can be touched up with paint in much the same manner as painted surfaces. Proper color match can be obtained by mixing small amounts of appropriate paint colors, then applying it to the affected area of the decal.

To repair blisters or air bubbles, pierce them with a sharp needle or pin. Work the trapped air out through the pin hole and press the decal firmly against the panel. It may be necessary to preheat the panel slightly with a Heat Gun J-25070 to soften the adhesive. Heat also may be used to remove small wrinkles or irregularities.

REPLACEMENT

Preparation

The temperature of the workroom should be between 65°F and 90°F. Decals should not be replaced in temperatures below 65°F.

The following equipment and materials are necessary for a quality installation:

- Woodgrain and Stripe Remover—3M, or equivalent
- Adhesive Remover—3M, or equivalent
- Liquid detergent (Joy, Vel, or equivalent)
- Wax and silicone remover (3M General Purpose Adhesive Cleaner, xylol, or equivalent)
- Isopropyl alcohol (rubbing alcohol)
- Squeegee (4 to 5 inches wide, plastic or hard rubber)
- Heat Gun J-25020 or infrared heat bulb with extension cord
- Clean wiping rags or paper towels
- Sharp knife, single-edge razor blade, or X-acto knife
- Scissors
- Dry 220 grade sandpaper
- Sharp needle or pin
- Grease pencil

Removal

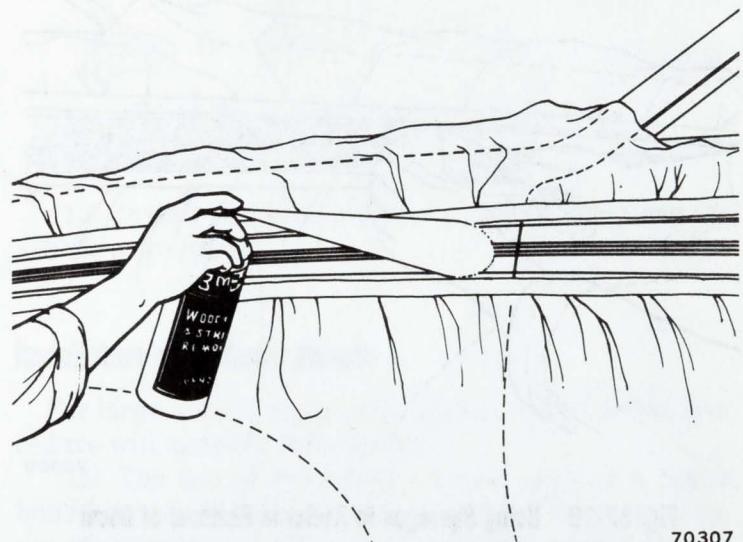
(1) Clean repair surfaces, adjacent panels, and openings as required.

(2) Remove decal overlapping parts from affected panel.

(3) Mask off area surrounding the panel.

(4) Scuff sand complete decal with 220 grade dry sandpaper. Avoid cutting through and reclean surfaces.

(5) Spray 3M Woodgrain and Stripe Remover or equivalent on flange area first. Then spray entire decal to be removed (fig. 3P-14). Move spray can back and forth across entire decal in a smooth steady motion. Make sure entire decal is coated with remover.



70307

Fig. 3P-14 Spraying Remover on Decal

CAUTION: Woodgrain and Stripe Remover from 3M is designed for use on acrylic enamel surfaces only.

WARNING: Use 3M Woodgrain and Stripe Remover, or equivalent, only in a well-ventilated area. Observe manufacturer's warnings printed on label.

(6) Spray entire panel again, this time moving the can up and down the decal.

(7) Allow remover to stay on decal for 20 minutes

(8) After 20 minutes, peel decal away from flange areas. Then, start in one corner and peel decal away from panel (fig. 3P-15). If there is any difficulty in peeling decal/overlay away from panel, use squeegee to assist in removing it (fig. 3P-16).

(9) Scrape all 3M Woodgrain and Stripe Remover from surface before proceeding.

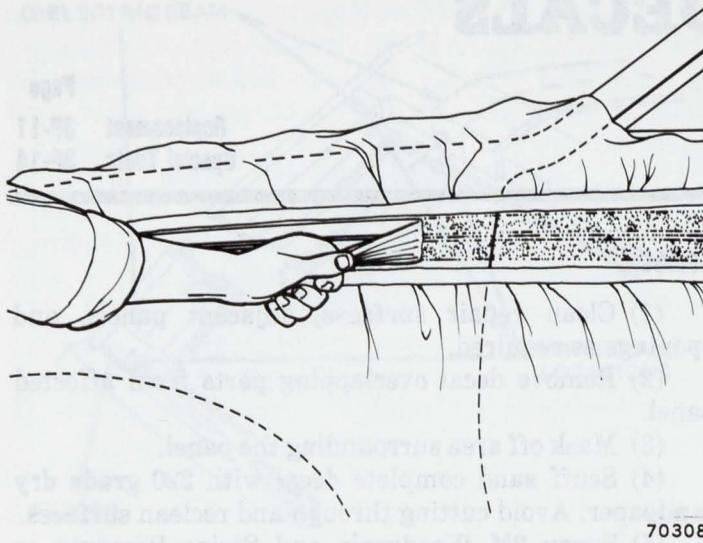


Fig. 3P-15 Peeling Decal from Panel

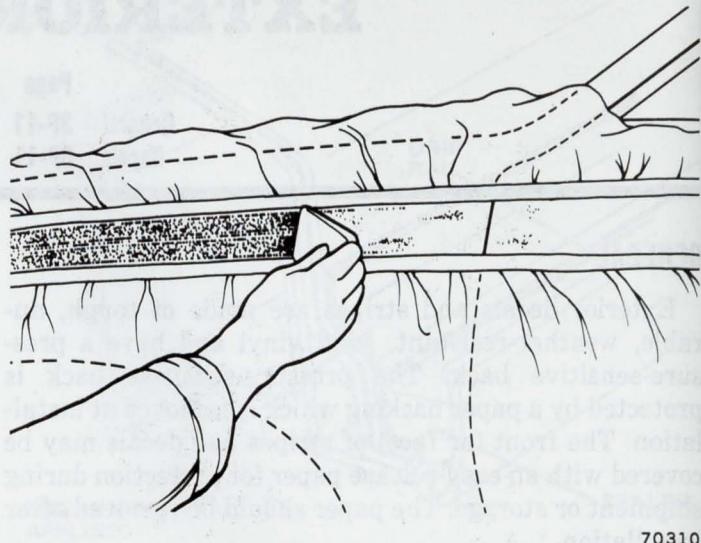


Fig. 3P-17 Using Squeegee to Remove Adhesive Residue

NOTE: If some adhesive is difficult to remove, spray additional remover on troublesome spots. Wait approximately two minutes and squeegee remaining spots. Repeat as necessary.

(12) Remove masking tape and paper.

(13) Wash entire panel with 3M General Purpose Adhesive Cleaner, or equivalent. If any spots of adhesive remain on panel, hard rubbing during the washdown will remove them.

Installation

(1) Clean painted surface with wax and silicone remover. Use 3M General Purpose Adhesive Cleaner, or equivalent. Wipe surface with clean cloth, and allow to dry.

NOTE: Freshly painted surfaces must be thoroughly dry. Residual solvents in fresh paint may cause decal to blister.

(2) Position decal on panel surface and mark the position with a grease pencil (fig. 3P-18). Ensure that 1/2-inch excess is allowed to be wrapped around the door and fender areas. Cut decal to approximate length using scissors.

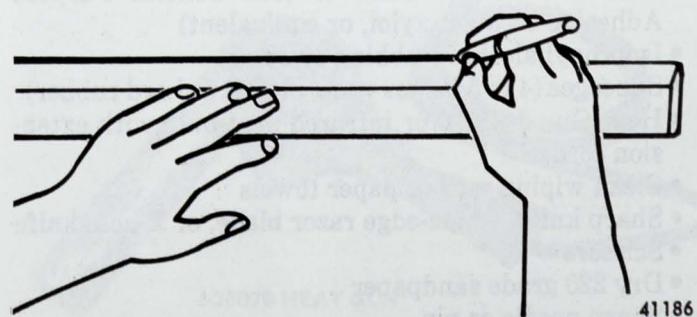


Fig. 3P-18 Marking Decal Position

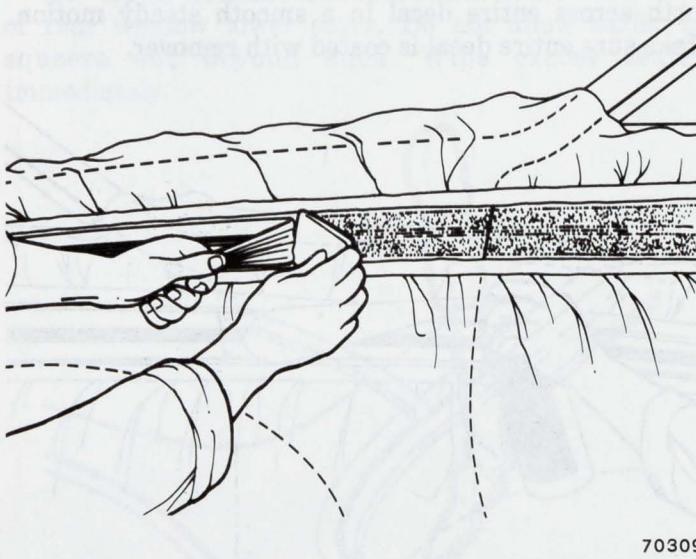


Fig. 3P-16 Using Squeegee to Assist in Removal of Decal

(10) After decal is removed, spray panel again with 3M Adhesive Remover, or equivalent, to remove any remaining adhesive. Use a slow spray application and apply Remover in a uniform criss-cross pattern to obtain a heavy coat.

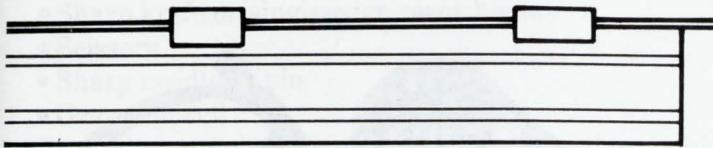
WARNING: Use 3M Adhesive Remover, or equivalent, only in a well ventilated area. Observe manufacturer's warnings printed on label.

CAUTION: Leaving Remover on surface for too short or long a period may render product ineffective.

NOTE: Allow Remover to work on adhesive surface for three to five minutes.

(11) After five minutes, use squeegee to remove adhesive residue (fig. 3P-17).

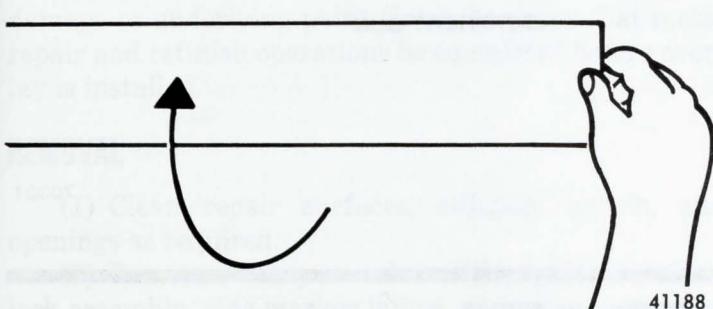
(3) Position the decal on panel and hold in place with small strips of masking tape (fig. 3P-19). Be sure decal is aligned with decal on adjacent panels.



41187

Fig. 3P-19 Positioning Decal on Panel

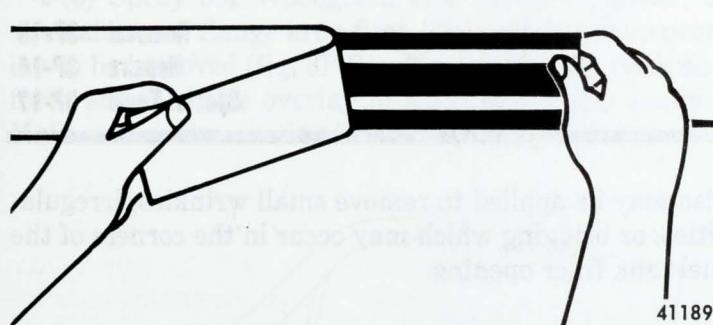
(4) Lift decal using masking tape as hinges (fig. 3P-20).



41188

Fig. 3P-20 Lifting Decal

(5) Remove approximately 6 inches of paper backing from one end (fig. 3P-21).



41189

Fig. 3P-21 Removing Backing Paper

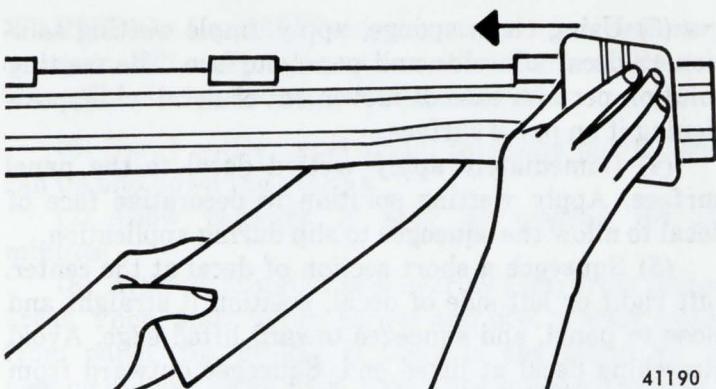
NOTE: To avoid pre-adhesion or stretching the decal, do not remove more than 6 inches of paper backing at one time.

(6) Fold decal back to aligned position. With firm strokes, squeegee decal to panel while removing paper backing (fig. 3P-22).

(7) Where possible, extend decal 1/2 inch beyond corners or edges (fig. 3P-23) and wrap firmly using finger pressure and squeegee. Avoid trapping air in these areas.

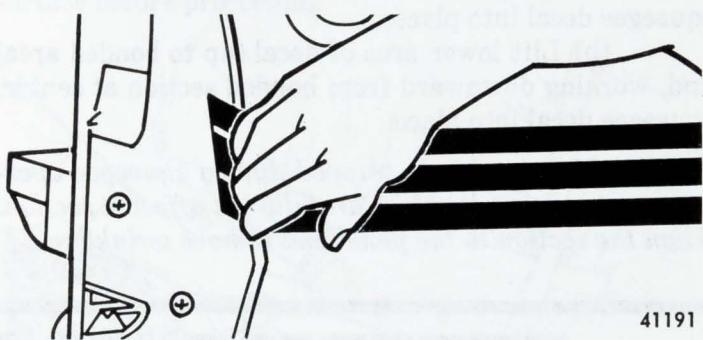
(8) Remove easy-release paper from face of decal (if applicable).

(9) Inspect decal installation using reflected light to detect any irregularities that may have developed during installation. Remove all air or moisture bubbles.



41190

Fig. 3P-22 Installing Decal with Squeegee



41191

Fig. 3P-23 Installing Decal at Corners or Edges

(10) Install previously removed parts and clean up vehicle as required.

Installation of Intricate Decals

For large, intricately shaped decals, the following procedure will simplify installation.

(1) The use of a wetting solution assures a better bond between decal and painted surface. Prepare a supply of wetting solution by thoroughly mixing two or three teaspoons of detergent (Joy, Vel, or equivalent) in one gallon of water.

NOTE: Too much detergent will reduce the effectiveness of the bond. **DO NOT USE SOAP.**

(2) Place the decal on a clean, flat surface with paper backing side up. Bend a corner of the decal toward the decorative face side, and with a flick of the finger, separate the paper backing from the decal. Hold decal firmly to surface of table and remove paper backing. Under hot, humid conditions, a slight jerking motion will aid in removing paper backing.

CAUTION: Always remove the paper backing from the decal, never the decal from the backing as stretching may result.

NOTE: Hold decal in corners when removing paper backing as fingerprints will adversely affect the adhesion.

(3) Using clean sponge, apply ample wetting solution to decal adhesive and panel surface. The wetting solution permits ease of movement of decal while positioning it on panel surface.

(4) Immediately apply wetted decal to the panel surface. Apply wetting solution to decorative face of decal to allow the squeegee to slip during application.

(5) Squeeze a short section of decal at the center. Lift right or left side of decal, position it straight and close to panel, and squeegee toward lifted edge. Avoid stretching decal at lifted end. Squeeze outward from center with firm, overlapping strokes.

(a) Lift upper area of decal (up to bonded area) and, working upward from bonded section at center, squeegee decal into place.

(b) Lift lower area of decal (up to bonded area) and, working downward from bonded section at center, squeegee decal into place.

NOTE: If a wrinkle is trapped during squeegee operations, stop immediately. Carefully lift affected section. Align the section to the panel and remove wrinkle.

SPECIAL TOOLS



J-25070 HEAT GUN

70301

EXTERIOR WOOD GRAIN OVERLAYS

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GENERAL

Exterior wood grain overlay panels are made of a tough, durable, weather-resistant, opaque cast vinyl and have a pressure-sensitive back. The pressure-sensitive back is protected by a paper backing which is removed at installation. The wood grain is embedded in the cast vinyl for a longer lasting attractive appearance. In addition, the rear panels are retroreflective that is, light is reflected back to its source by means of thousands of tiny glass beads impregnated in the cast vinyl.

REPAIRS

Small nicks, bruises, or scratches can be touched up with paint in much the same manner as painted surfaces. Proper color match can be obtained by blending small amounts of appropriate paint colors, then spot-painting the affected area of the overlay.

To repair blisters or air bubbles, pierce them with a sharp needle or pin. Work the trapped air out through the pin hole and press the overlay firmly against the panel. It may be necessary to preheat the panel slightly, with a Heat Gun J-25070 to soften the adhesive. Heat

also may be applied to remove small wrinkles, irregularities, or bridging which may occur in the corners of the fuel tank filler opening.

NOTE: Whenever the material must be stretched, do not slit or cut the overlay. Simply apply heat and press or squeegee the overlay smoothly and firmly into place.

PREPARATION

Workroom temperature should be between 65°F and 90°F. Overlays should not be replaced in temperatures below 65°F.

The following equipment and materials are necessary for a quality overlay installation.

- Woodgrain and Stripe Remover—3M, or equivalent
- Adhesive Remover—3M, or equivalent
- Liquid detergent (Joy, Vel, or equivalent)
- Wax and silicone remover (3M General Purpose Adhesive Cleaner, or equivalent)
- Isopropyl alcohol (rubbing alcohol)
- Squeegee (4 to 5 inches wide, plastic or hard rubber)
- Water bucket and sponge

- Sandpaper (No. 360 or No. 400, wet-or-dry type)
- Heat Gun J-25070 or infrared heat bulb and extension cord
- Clean wiping rags or paper towels
- Sharp knife or single-edge razor blade
- Scissors
- Sharp needle or pin
- Grease pencil

Prepare a supply of wetting solution by thoroughly mixing two or three teaspoons of detergent (Joy, Vel, or equivalent) in one gallon of water. The use of a wetting solution assures a better bond between overlay and painted surface. Too much detergent will reduce the effectiveness of the bond. Do not use soap.

Overlay replacement involving collision damage, or damage to underlying paint finish, requires that metal repair and refinish operations be completed before overlay is installed.

REMOVAL

(1) Clean repair surfaces, adjacent panels, and openings as required.

(2) Remove overlay reveal mouldings, door handles, lock assembly, side marker lamps, or other overlapping parts from the affected panel.

(3) Mask off areas surrounding the panel.

(4) Scuff sand overlay with 220 grade dry sandpaper. Avoid cutting through and reclean overlay.

(5) Spray 3M Woodgrain and Stripe Remover, or equivalent, on flange area first. Then spray entire overlay to be removed (fig. 3P-24). Move spray can back and forth across entire overlay in a smooth steady motion. Make sure entire overlay is coated with remover.

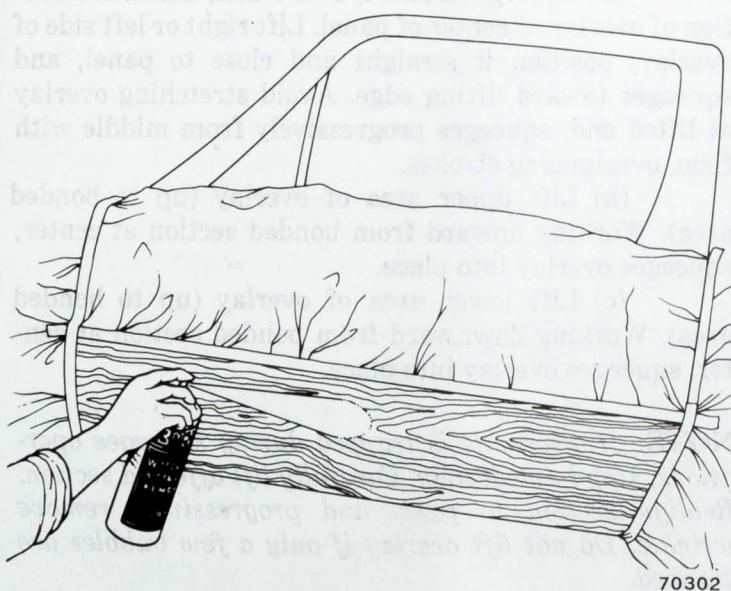


Fig. 3P-24 Spraying Remover on Overlay

CAUTION: Woodgrain and Stripe Remover from 3M is designed for use on acrylic enamel surfaces only.

WARNING: Use 3M Woodgrain and Stripe Remover, or equivalent, only in a well-ventilated area. Observe manufacturer's warnings printed on label.

(6) Spray entire panel again, this time moving the can up and down the overlay.

(7) Allow remover to stay on overlay for 20 minutes.

(8) After 20 minutes, peel overlay away from flange areas. Then, start in one corner and peel overlay away from panel (fig. 3P-25). If there is any difficulty in peeling overlay away from panel, use squeegee to assist in removing it (fig. 3P-26).

(9) Scrape all Woodgrain and Stripe Remover from surface before proceeding.

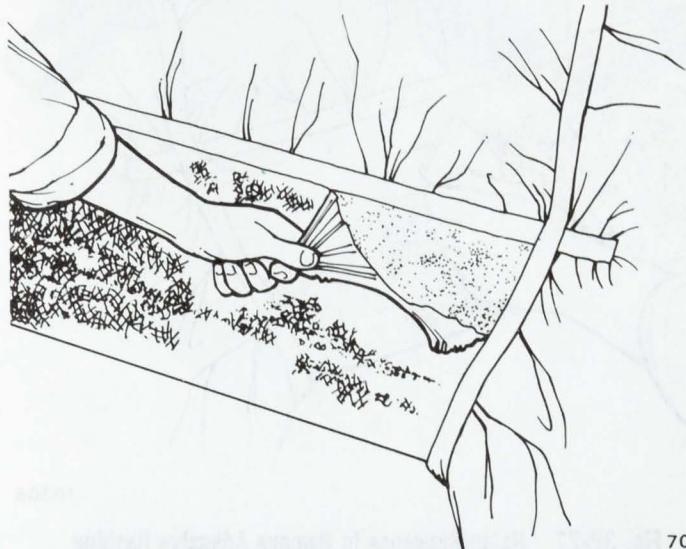


Fig. 3P-25 Peeling Overlay from Panel

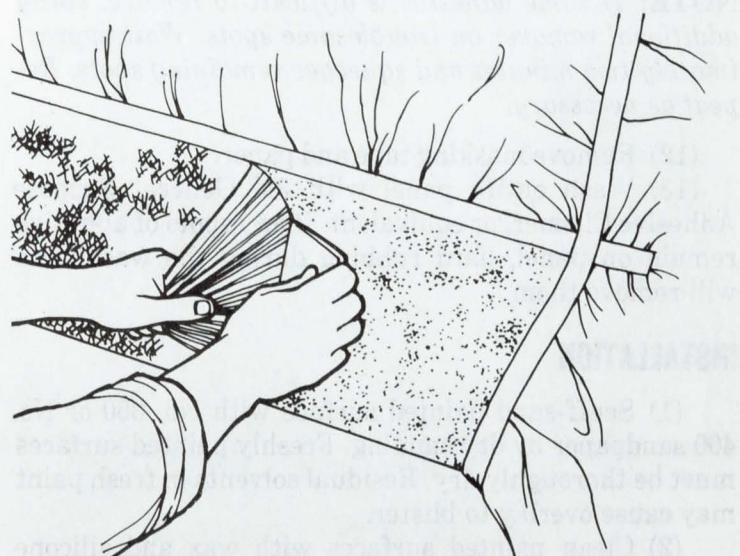


Fig. 3P-26 Using Squeegee to Assist in Removal of Overlay

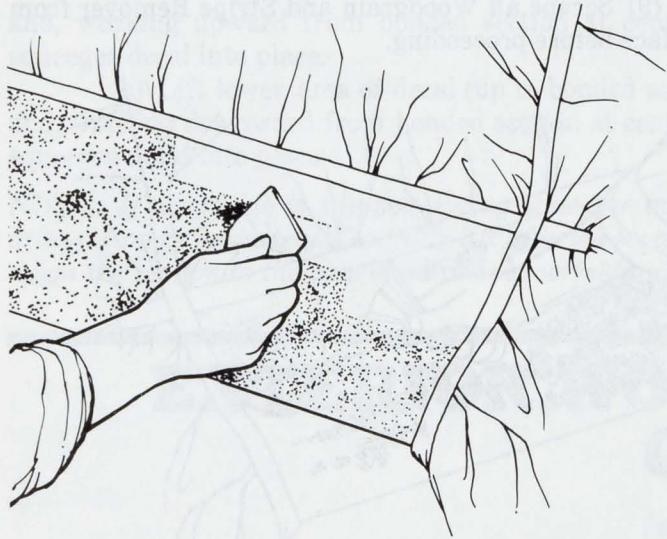
(10) After overlay is removed, spray panel again with 3M Adhesive Remover, or equivalent, to remove any remaining adhesive. Use a slow spray application and apply remover in a uniform criss-cross pattern to obtain a heavy coat.

WARNING: Use 3M Adhesive Remover, or equivalent, only in a well ventilated area. Observe manufacturer's warnings printed on label.

CAUTION: Leaving remover on surface for too short or long a period may render product ineffective.

NOTE: Allow remover to work on adhesive surface for three to five minutes.

(11) After five minutes, use squeegee to remove adhesive residue (fig. 3P-27).



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Fig. 3P-27 Using Squeegee to Remove Adhesive Residue

NOTE: If some adhesive is difficult to remove, spray additional remover on troublesome spots. Wait approximately two minutes and squeegee remaining spots. Repeat as necessary.

(12) Remove masking tape and paper.

(13) Wash entire panel with 3M General Purpose Adhesive Cleaner, or equivalent. If any spots of adhesive remain on panel, hard rubbing during the washdown will remove them.

INSTALLATION

(1) Scuff-sand painted surface with No. 360 or No. 400 sandpaper by dry sanding. Freshly painted surfaces must be thoroughly dry. Residual solvents in fresh paint may cause overlay to blister.

(2) Clean painted surfaces with wax and silicone remover (3M General Purpose Adhesive Cleaner, or equivalent). Wipe surface with clean cloth and allow to dry.

(3) Position overlay on repair panel surface, and mark approximate outline on overlay with a grease pencil. Ensure that 1/2-inch excess is allowed to be wrapped around the door and fender areas. With scissors, cut overlay to approximate size. Overlay should be cut so

that upper and lower edges extend halfway into area covered by mouldings.

(4) Place overlay on a clean, flat surface with protective paper backing side up. Bend a corner of the overlay toward the decorative face side, and with a flick of the finger, separate the paper backing from the overlay. Hold overlay firmly to the surface of a table and remove the paper backing. Under hot, humid conditions, a slight jerking motion will aid in removing paper backing.

CAUTION: Always remove the paper backing from the overlay; never the overlay from the backing as film stretching may result.

NOTE: Hold overlay by corners when removing paper backing as fingerprints will adversely affect the adhesion.

(5) Using clean sponge, apply ample wetting solution to overlay adhesive and to repair panel surface. The wetting solution permits ease of movement of the overlay while positioning it on a panel surface.

(6) Immediately apply wetted overlay to the repair panel surface. Position overlay in the center of the area to be covered with at least 1/2 inch extending beyond edges. Apply wetting solution to wood grain surface of overlay to allow squeegee to slip during application.

(7) Squeegee from the center to edges of overlay with firm strokes to remove all air bubbles and wetting solution and to assure bonding of overlay to painted surface. On large overlays, the following steps will simplify installation:

(a) Squeegee a short, 4- to 6-inch horizontal section of overlay at center of panel. Lift right or left side of overlay, position it straight and close to panel, and squeegee toward lifting edge. Avoid stretching overlay at lifted end, squeegee progressively from middle with firm, overlapping strokes.

(b) Lift upper area of overlay (up to bonded area). Working upward from bonded section at center, squeegee overlay into place.

(c) Lift lower area of overlay (up to bonded area). Working downward from bonded section at center, squeegee overlay into place.

NOTE: If a wrinkle is trapped during squeegee operations, stop immediately. Carefully lift affected section. Realign section to panel and progressively remove wrinkle. Do not lift overlay if only a few bubbles are trapped.

(8) Notch corner or curved edges of overlay where necessary and trim off excess material.

(9) Allow 1/2-inch extra material beyond edges that are to be wrapped around flange areas.

CAUTION: Use extreme care to avoid spilling isopropyl alcohol (rubbing alcohol) on trim or painted surfaces. Wipe spills immediately as alcohol will discolor trim or painted surfaces on prolonged contact.

(10) To activate adhesive, wipe adhesive side of overlay with isopropyl alcohol.

(11) Warm overlay at edges by passing a heat source, such as Heat Gun J-25070 over the surface to soften it.

(12) Firmly press overlay into position with fingertips, a cloth, and finally a squeegee, alternately warming and pressing it until complete adhesion is obtained.

NOTE: Avoid undue pulling or stretching at ends of overlay as tearing could result.

(13) Apply heat to overlay at door handle holes, side marker lamps, and other depressions using Heat Gun J-25070. Press overlay uniformly into depressions to obtain formed bond.

(14) With sharp knife, carefully cut out excess overlay at door handles, side marker lamps, and other openings in panel.

(15) Inspect overlay installation using reflected light to detect irregularities that may have developed during installation. Remove all air or moisture bubbles.

(16) Install previously removed parts and clean vehicle as required.

Special Tools



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LIGHTING SYSTEMS

3R

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EXTERIOR LIGHTING SYSTEMS

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HEADLAMPS

All models are equipped with a single headlamp system.

The headlamp used with the single headlamp system is identified by the number 2 embossed on the seal beam face, except Concord which uses the new large rectangular headlamp system. All lamps contain two elements, one low beam and one high beam.

To obtain maximum results in road illumination and safety, the headlamps must be properly aimed.

Adjustment of beam direction may be made to conform with the existing state regulations by the following outlined method.

Replacement

Pacer-Gremlin-AMX-Matador

Headlamps are removed on all Pacer, Gremlin, AMX and Matador Models by removing the headlamp door, loosening the headlamp attaching screws and rotating the retaining ring clockwise. Disconnect the headlamp wiring connector and remove the headlamp.

Concord

Headlamps are removed on all Concord models by removing the headlamp door and retaining ring. Dis-

connect the headlamp wiring connector and remove the headlamp.

Aiming Headlamps With Mechanical Almer

NOTE: Cars equipped with air shocks should have zero air pressure in the shocks and the car should not be loaded when adjusting headlamps.

Use Headlight Aimer J-25300-10 which has the proper adapters for use with the new large rectangular headlamps used on the Concord models, follow the instructions supplied with the tool for proper headlamp aiming.

Aiming Headlamps Without Mechanical Almer

NOTE: Cars equipped with air shocks should have zero air pressure in the shocks and the car should not be loaded when adjusting headlamps.

The adjustment screws are accessible through the headlamp doors.

(1) Locate car in a darkened, level area square with a screen or wall having a nonreflecting white surface and with the front of headlamps directly over a reference line 25 feet (7.5 m) from screen or wall.

(2) Locate middle of aiming screen in line with center of car. This can be done by marking center of front

and rear windows with a narrow strip of masking tape. Use these sights to locate and mark center of aiming screen directly in line with car axis.

(3) Measure horizontal distance between lamp centers.

(4) Position dark colored tape at half this distance, to right of marked centerline, in a vertical position on screen. Place another tape vertically to left of centerline a similar distance.

(5) Measure distance from center of each lamp to surface on which car rests. Mark same height measurement on screen using a piece of tape to form a cross on screen with tape positioned in step above. Turn headlamps on low beam and cover one lamp.

(6) Turn vertical aiming screw, located at top position of lamp housing (fig. 3R-1), counterclockwise until beam has been considerably lowered. Then turn screw clockwise until top edge of high intensity portion of lower beam is even with horizontal line.

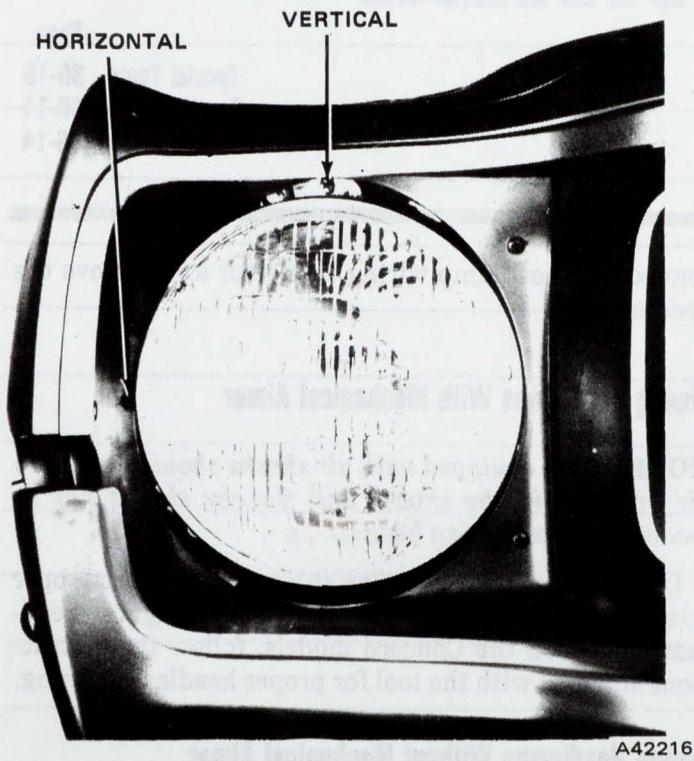


Fig. 3R-1 Headlamp Adjustment—Typical

(7) Turn horizontal aiming screw, located at side of lamp housing (fig. 3R-1), counterclockwise then clockwise, until left edge of high intensity area at lower beam is 2 inches to right of lamp centerline.

NOTE: Tap lamp lightly with hand after making an adjustment of aiming screws. This assures proper tension against the screws to avoid any change in aiming due to road bumps or vibrations.

(8) Cover lamp that has been aimed and follow above procedure for opposite lamp.

Correct Aiming

The hot spots for two-element, low beam position are aimed to a spot within six inches (15 cm) to the right of the vertical centerline of the lamp and two inches below the horizontal centerline of the lamp when projected on the screen 25 feet (7.5 m) ahead of the car. Aiming the low beam element automatically aims the high beam element properly (fig. 3R-2).

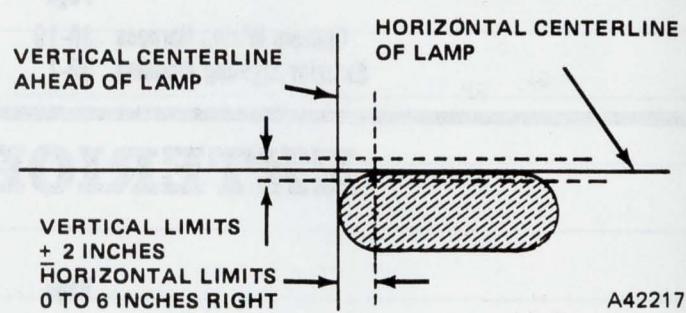


Fig. 3R-2 Aiming Pattern—Two-Element Low Beam Position

Headlamp Warning Buzzer (Optional)

The headlamp warning system is an optional item to warn the driver that the headlamps have been left on with the engine stopped. The headlamp warning system and key warning system utilize a common buzzer and ground switch which is located in the left A-pillar. The buzzer is located behind the instrument cluster to the left of the steering column.

The headlamp warning buzzer obtains current from the taillamp circuit and grounds through the driver's door switch when the door is open.

Since the headlamp warning buzzer is common with the key alarm buzzer, check the key warning system operation as described below, if the headlamp warning buzzer malfunctions. If the key warning system functions properly, check the dark blue wire which feeds the headlamp warning buzzer from the taillamp circuit. This wire carries current whenever the headlamp switch is operated.

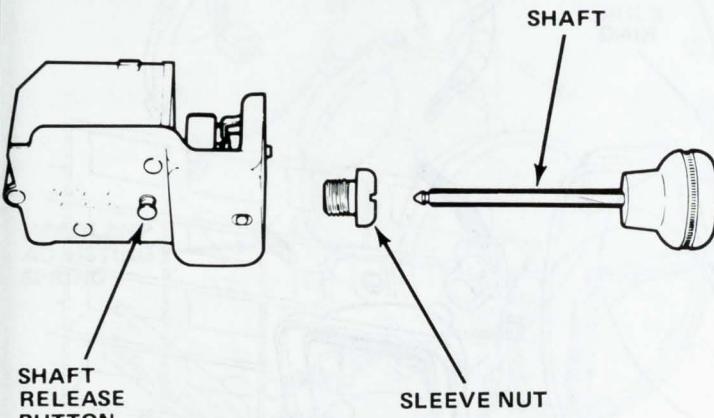
Headlamp Switch

A push-pull type switch assembly is used on all models. From the OFF position, pulling the switch knob to the first position operates the parking lamp circuit. Pulling the switch knob all the way out operates the headlamp circuit.

Turning the knob clockwise dims the instrument cluster lights. Extreme counterclockwise rotation turns on the dome/courtesy lamps.

Removal—Pacer

- (1) Disconnect battery negative cable.
- (2) Remove headlamp switch overlay attaching screws and pull overlay assembly rearward.
- (3) Pull switch to the full ON position while pressing shaft release button located on switch (fig. 3R-3). Switch shaft and knob assembly will slip from switch.
- (4) Remove switch mounting sleeve nut.
- (5) Disconnect wiring and remove switch.



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Fig. 3R-3 Headlamp Switch Assembly**Installation—Pacer**

NOTE: When installing headlamp switch, position properly before tightening.

- (1) Position headlamp switch in overlay.
- (2) Install switch mounting sleeve nut.
- (3) Connect switch wiring harness and ground wire.
- (4) Install headlamp switch overlay.
- (5) Install switch shaft and knob assembly.
- (6) Connect battery negative cable.

Removal—Gremlin-Concord-AMX

- (1) Disconnect battery negative cable.
- (2) Remove package tray, if equipped, and disconnect speedometer cable.
- (3) Remove instrument cluster assembly attaching screws and tilt cluster assembly away from instrument panel.
- (4) Place switch in full ON position, pull on knob and press shaft release button located on switch to release switch shaft and knob assembly (fig. 3R-3).
- (5) Remove switch shaft and knob assembly.
- (6) Remove light switch mounting sleeve nut and switch from instrument cluster assembly.
- (7) Disconnect wire harness and ground wire.

Installation—Gremlin-Concord-AMX

NOTE: When installing headlamp switch, position properly before tightening.

(1) Position headlamp switch in instrument cluster assembly.

- (2) Connect switch wire harness and ground wire.
- (3) Install switch mounting sleeve nut and tighten.
- (4) Install switch shaft and knob assembly.
- (5) Install instrument cluster assembly and attaching screws.
- (6) Connect speedometer cable and install package tray, if removed.
- (7) Connect battery negative cable.

Removal—Matador

- (1) Disconnect battery negative cable.
- (2) Remove instrument cluster bezel.
- (3) Remove screws attaching headlamp switch and wiper-washer bracket to instrument panel.
- (4) Pull headlamp switch knob to full ON position while pressing shaft release button located on switch.
- (5) Remove switch shaft and knob assembly.
- (6) Remove switch attaching sleeve nut (fig. 3R-3) using wide blade screwdriver.
- (7) Remove electrical connector plug and remove switch.

Installation—Matador

- (1) Position headlamp switch in bracket.
- (2) Install attaching sleeve nut.
- (3) Connect electrical connector.
- (4) Install switch shaft and knob assembly.
- (5) Position headlamp switch and wiper-washer bracket on instrument panel and install attaching screws.
- (6) Install instrument cluster bezel.
- (7) Connect battery negative cable.

FRONT, REAR AND SIDE LIGHTING**Front Parking and Directional Lights**

NOTE: Refer to Bulb Specifications Chart at the end of this chapter for correct replacement bulbs.

The front parking and directional lamp assemblies are mounted in the grille in all Gremlin, Concord, AMX and Matador models.

Removing the front lens attaching screws will allow access to the bulbs on all Gremlin, AMX and Matador models (fig. 3R-4 through 3R-8).

Twist and remove the bulb socket from the rear of the Concord models to gain access to the bulbs (fig. 3R-5).

Directional lamp assemblies contain double contact bulbs. One bulb element is the directional signal and the other is the parking lamp.

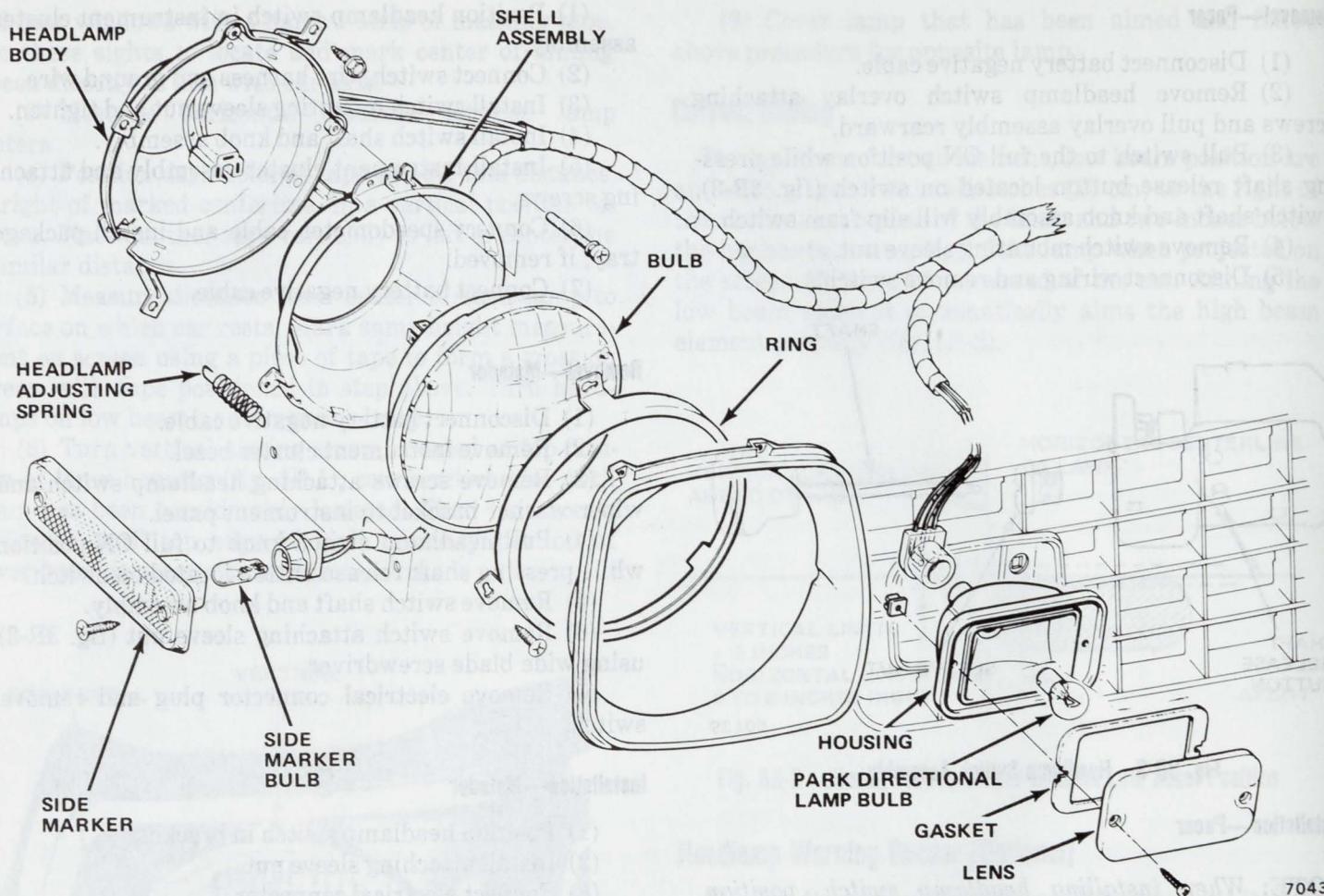


Fig. 3R-4 Headlamp, Parking, Directional and Side Marker Lamps—Gremlin

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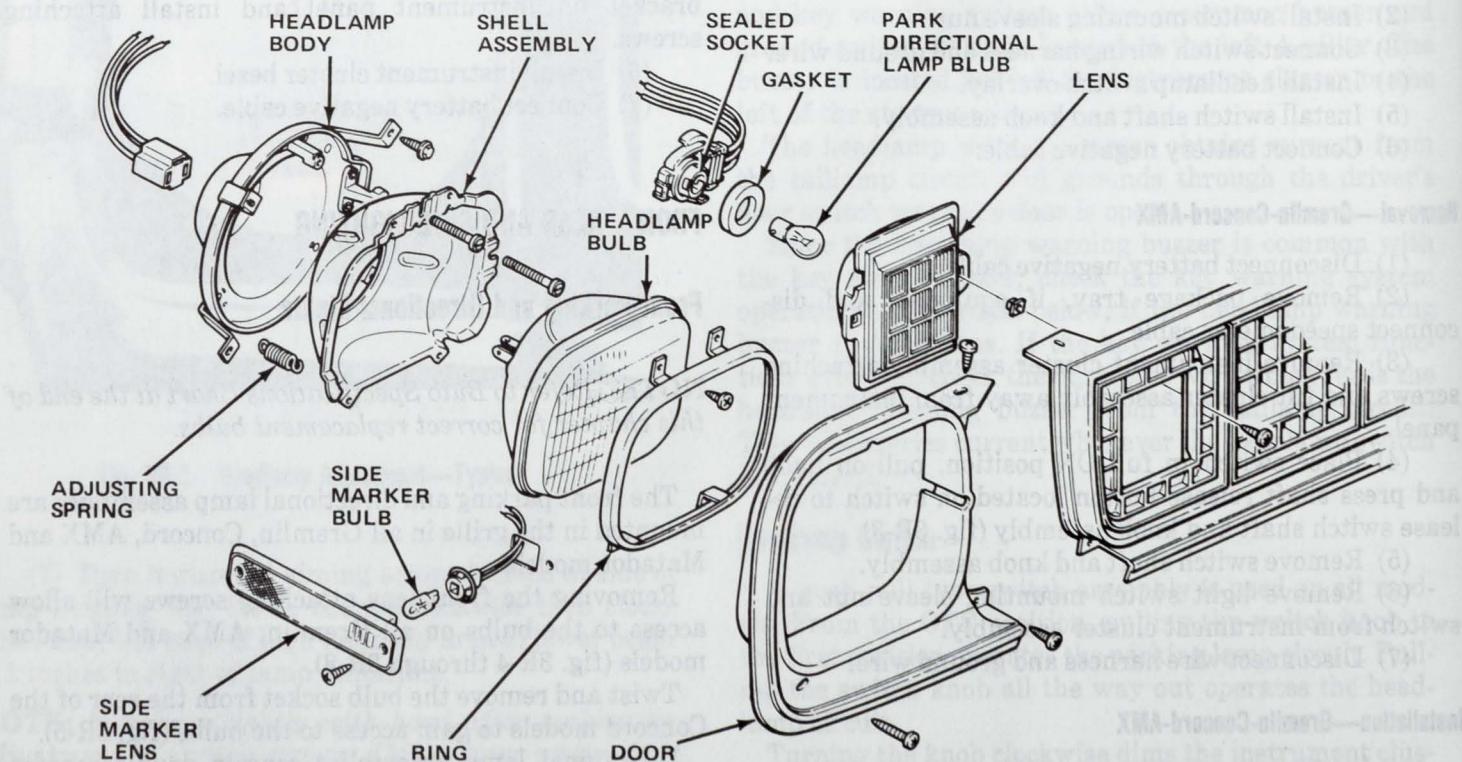


Fig. 3R-5 Headlamp, Parking, Directional and Side Marker Lamps—Concord

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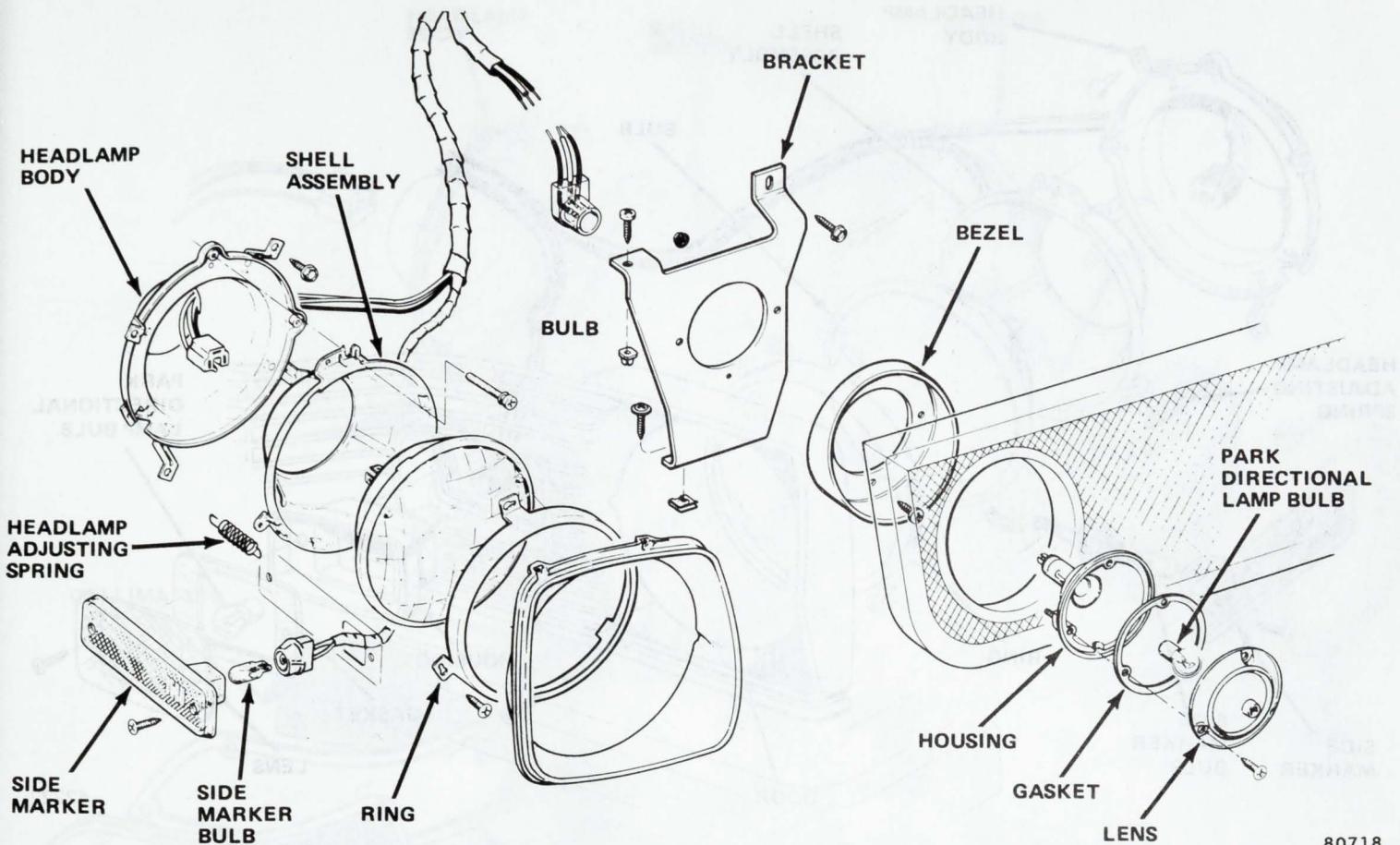


Fig. 3R-6 Headlamp, Parking, Directional and Side Marker Lamps—AMX

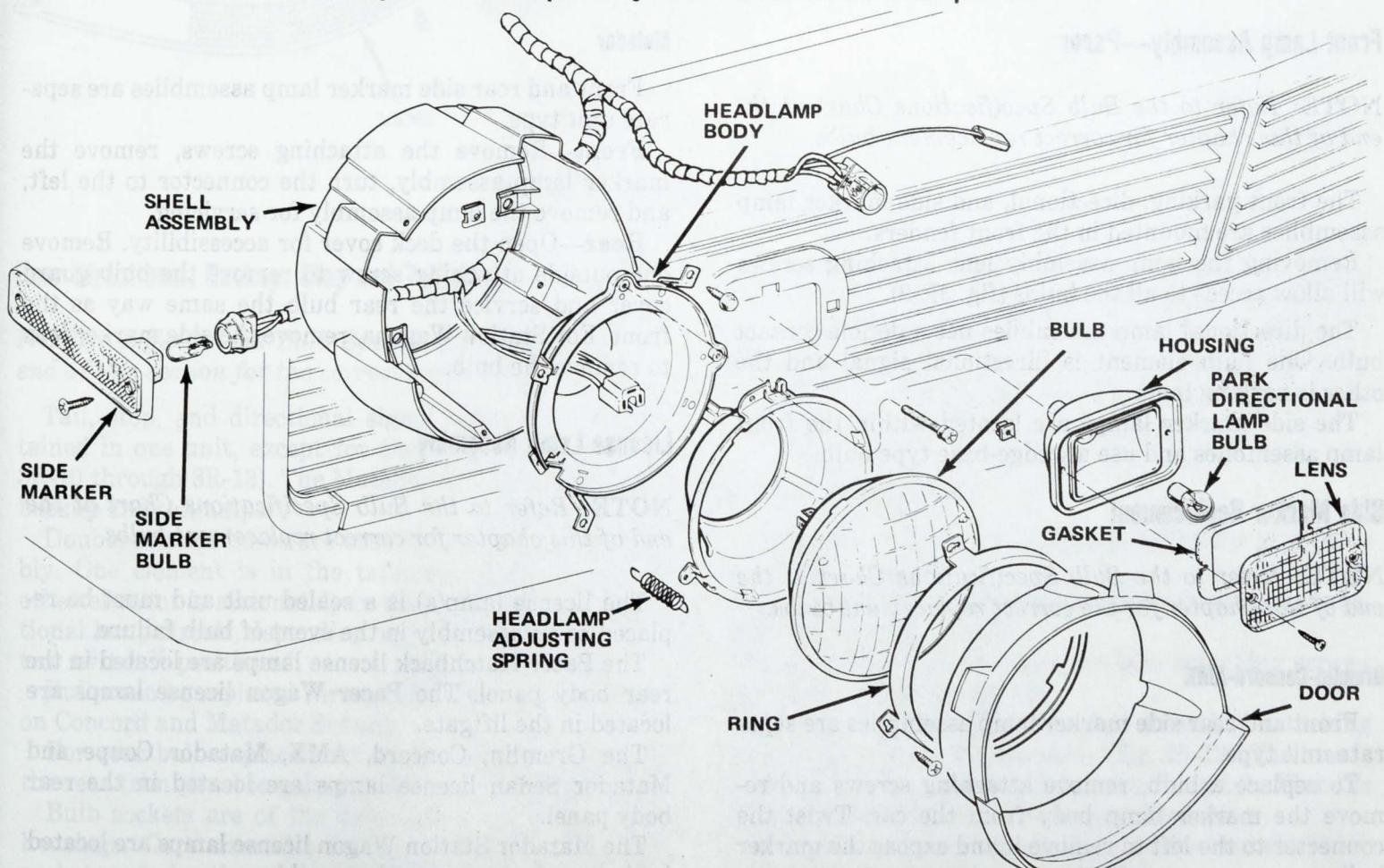
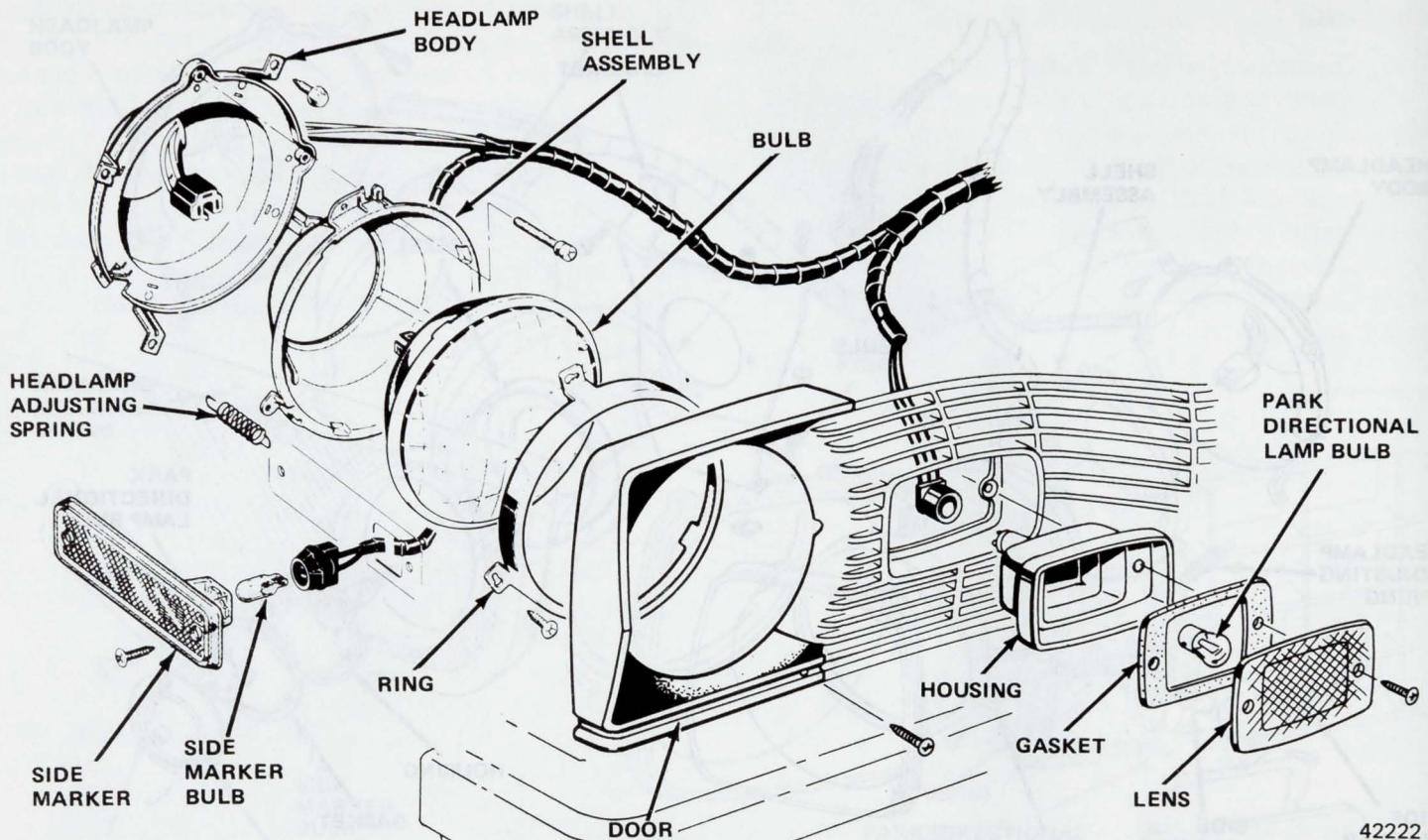


Fig. 3R-7 Headlamp, Parking, Directional and Side Marker Lamps—Matador Coupe



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Fig. 3R-8 Headlamp, Parking, Directional and Side Marker Lamps—Matador Sedan and Station Wagon

Front Lamp Assembly—Pacer

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for correct replacement bulbs.

The front parking, directional, and side marker lamp assemblies are mounted in the front fenders.

Removing the lamp assembly lens attaching screws will allow access to all the bulbs (fig. 3R-9).

The directional lamp assemblies use a double contact bulb. One bulb element is directional signal and the other is parking lamp.

The side marker lamps are located within the front lamp assemblies and use a wedge-base type bulb.

Side Marker Replacement

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for the correct replacement bulbs.

Gremlin-Concord-AMX

Front and rear side marker lamp assemblies are separate unit type.

To replace a bulb, remove attaching screws and remove the marker lamp body from the car. Twist the connector to the left to remove it and expose the marker bulb.

Matador

Front and rear side marker lamp assemblies are separate unit type.

Front—Remove the attaching screws, remove the marker lamp assembly, turn the connector to the left, and remove the lamp assembly for servicing.

Rear—Open the deck cover for accessibility. Remove one outside attaching screw to remove the bulb guard cover and service the rear bulb the same way as the front. For Station Wagons, remove the side marker lens to remove the bulb.

License Lamp Assembly

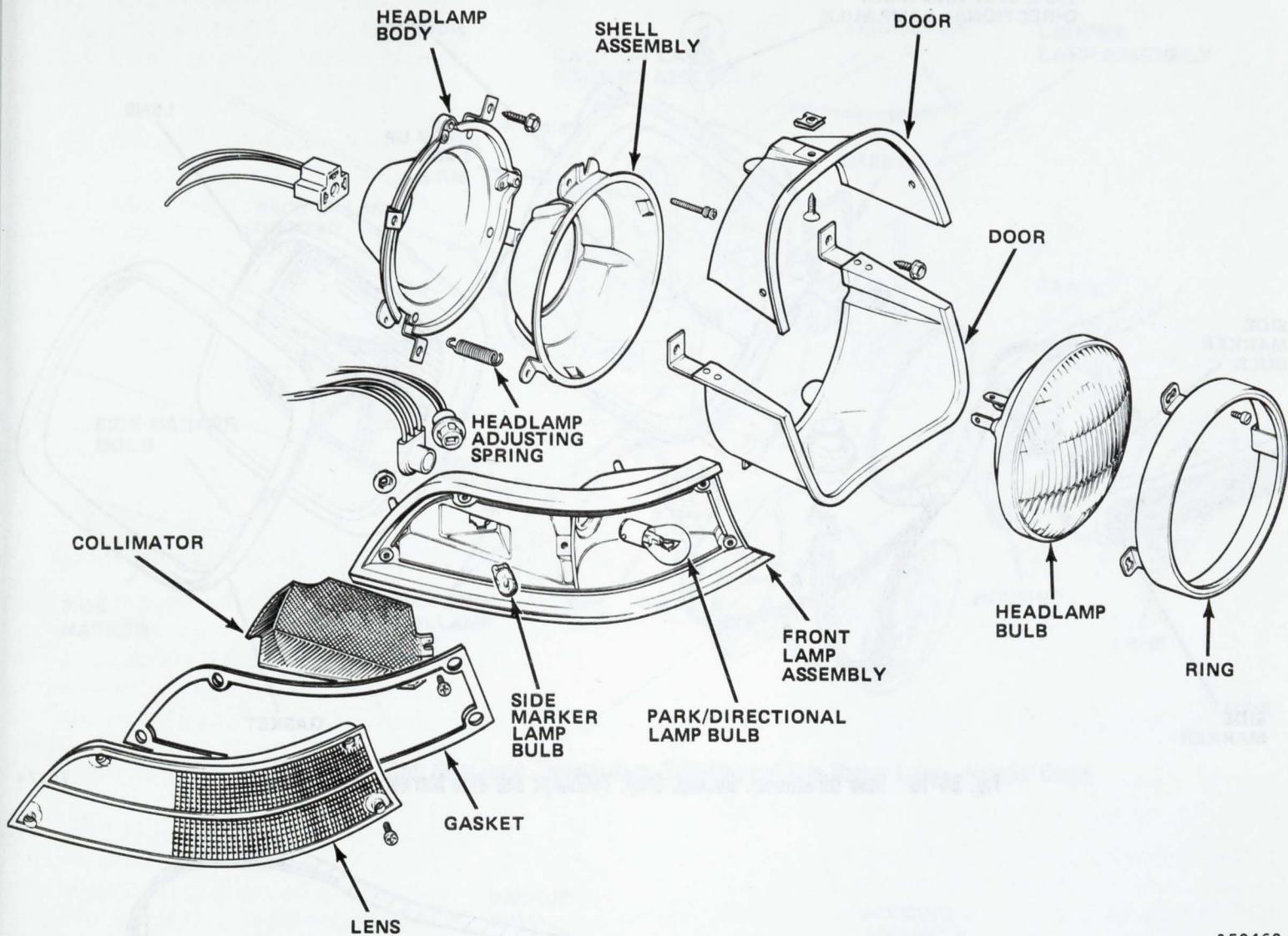
NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for correct replacement bulbs.

The license lamp(s) is a sealed unit and must be replaced as an assembly in the event of bulb failure.

The Pacer Hatchback license lamps are located in the rear body panel. The Pacer Wagon license lamps are located in the liftgate.

The Gremlin, Concord, AMX, Matador Coupe and Matador Sedan license lamps are located in the rear body panel.

The Matador Station Wagon license lamps are located in the rear bumper guard assembly.



A50468

Fig. 3R-9 Front Lamp Assembly—Pacer

Rear Directional, Backup, Stop and Taillamps

NOTE: Refer to the *Bulb Specifications Chart* at the end of this section for the correct replacement bulbs.

Tail, stop, and directional signal lamps are all contained in one unit, except for the Matador Coupe (fig. 3R-10 through 3R-13). The Matador Coupe has separate backup and taillamps.

Double contact bulbs are used in the taillamp assembly. One element is in the taillamp circuit while the other element is alternately in the brake lamp or directional lamp circuit, depending on how the direction control switch is positioned.

Bulbs can be replaced through the deck cover opening on Concord and Matador Sedans.

For rear bulb replacement on the Gremlins, remove the rear trim panel to gain access to the lamp sockets.

Bulb sockets are of the twist-lock type in the lamp housings. Care must be taken when installing lamp sockets to index them properly into the lamp housing.

Concord Wagon bulbs are accessible after removing the rear trim panel. To replace rear bulbs on the Concord and AMX Hatchbacks, remove the small inside corner trim panel at either side. The Matador Station Wagon bulbs can be replaced after removing the taillamp lens (fig. 3R-14).

Rear Lens Replacement

Gremlin—Remove the taillamp assembly to replace the lens (fig. 3R-10).

Concord-AMX—Remove the taillamp assembly to replace the lens (fig. 3R-11).

Matador Coupe—Remove the lens attaching screws and remove lens (fig. 3R-12).

Matador Sedan—Remove the assembly attaching screws and remove the assembly (fig. 3R-13). The lens is retained by an upper and lower retaining tab. Flex the section around the tab to disengage the lens.

Matador Station Wagon—Remove the lens attaching screws and remove the lens (fig. 3R-14).

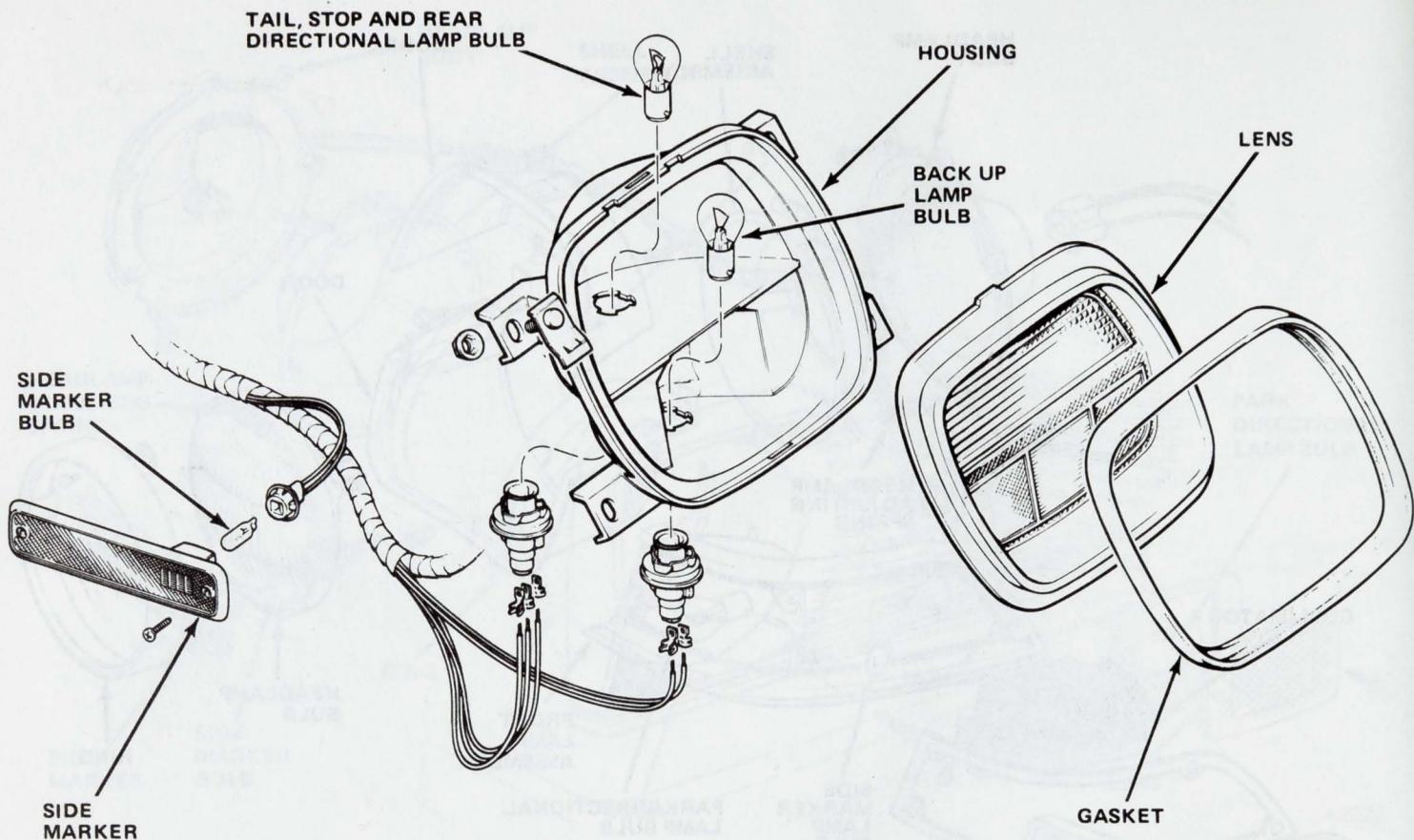


Fig. 3R-10 Rear Directional, Backup, Stop, Taillamps and Side Marker Lamp—Gremlin

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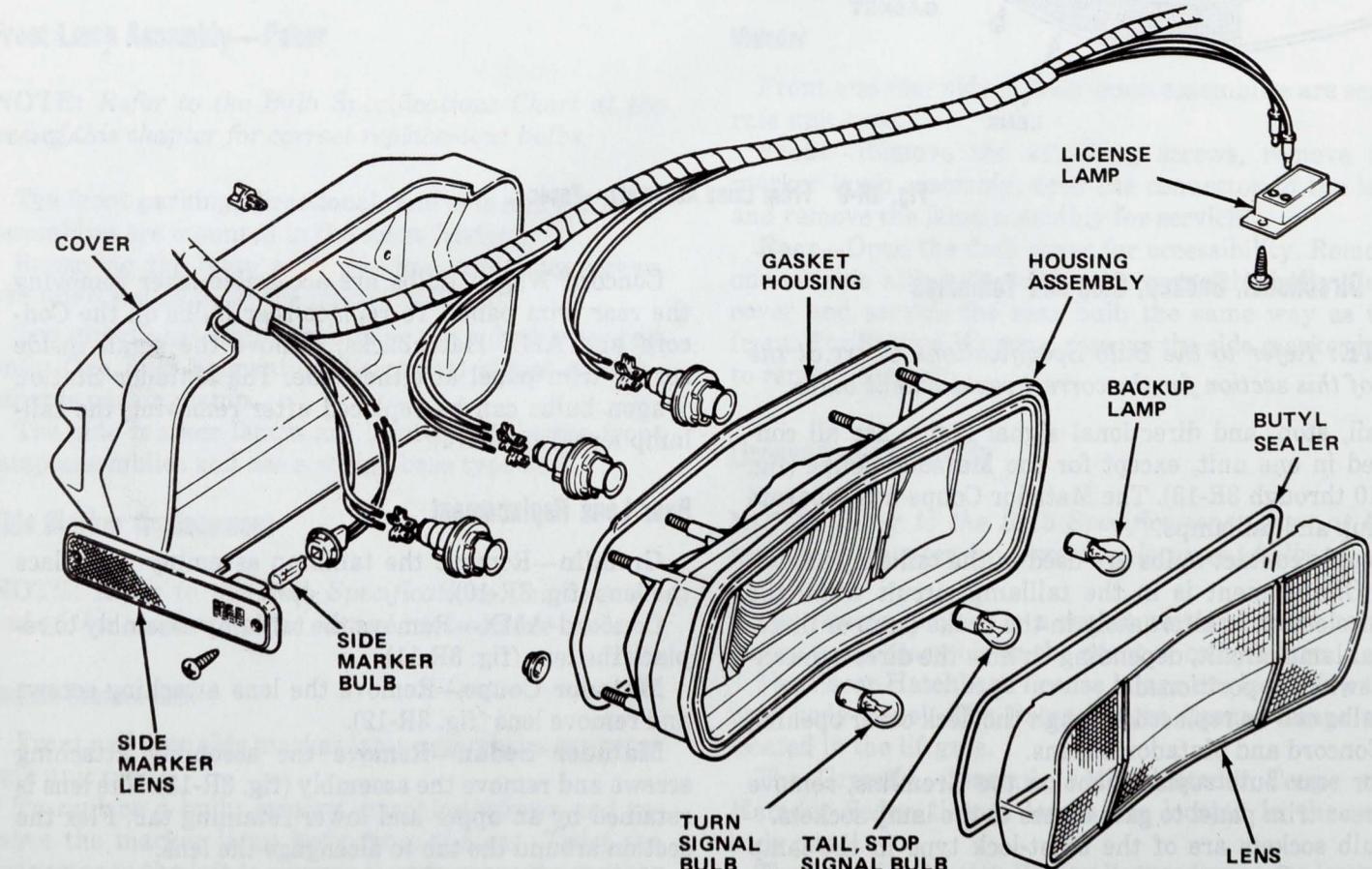
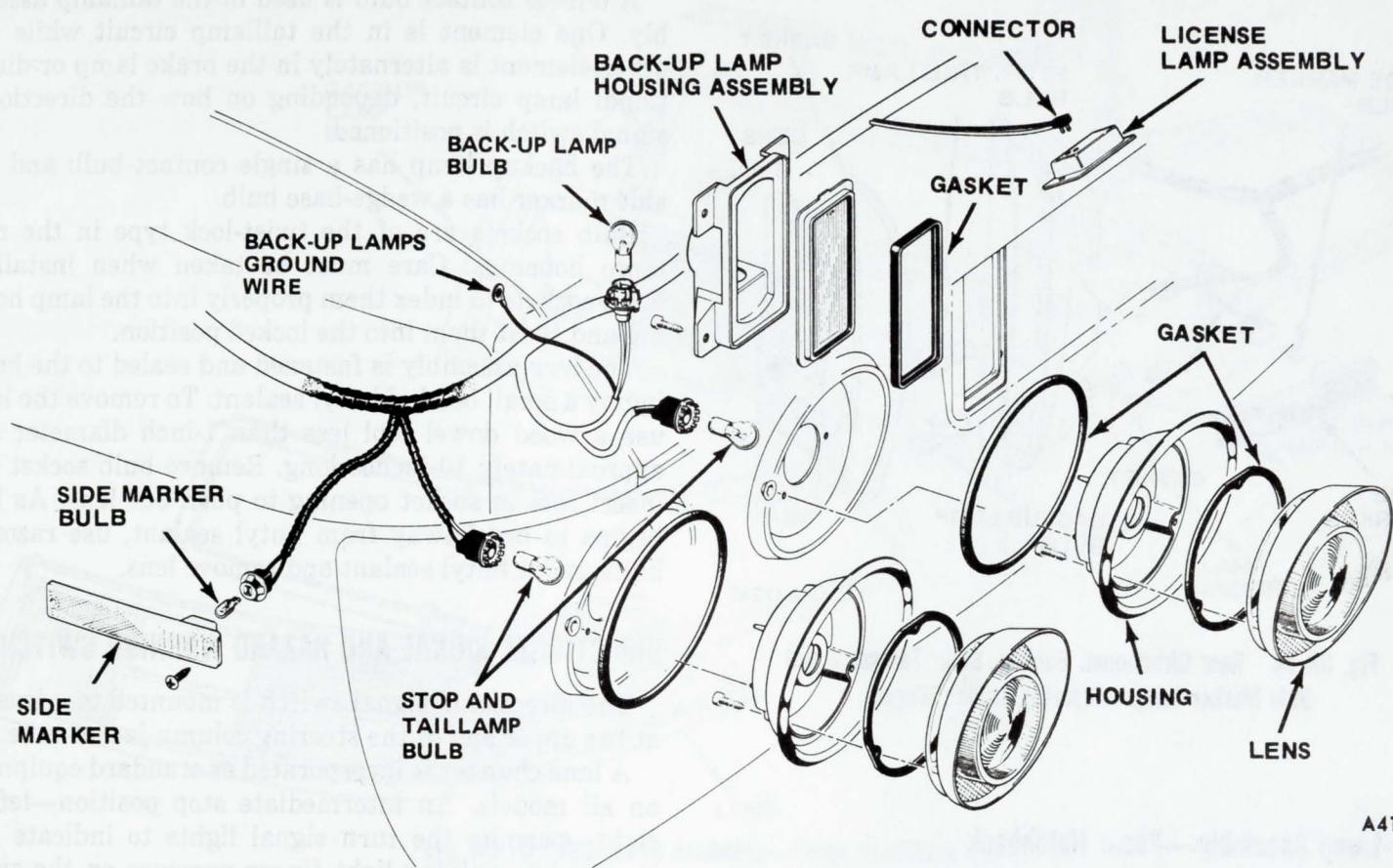
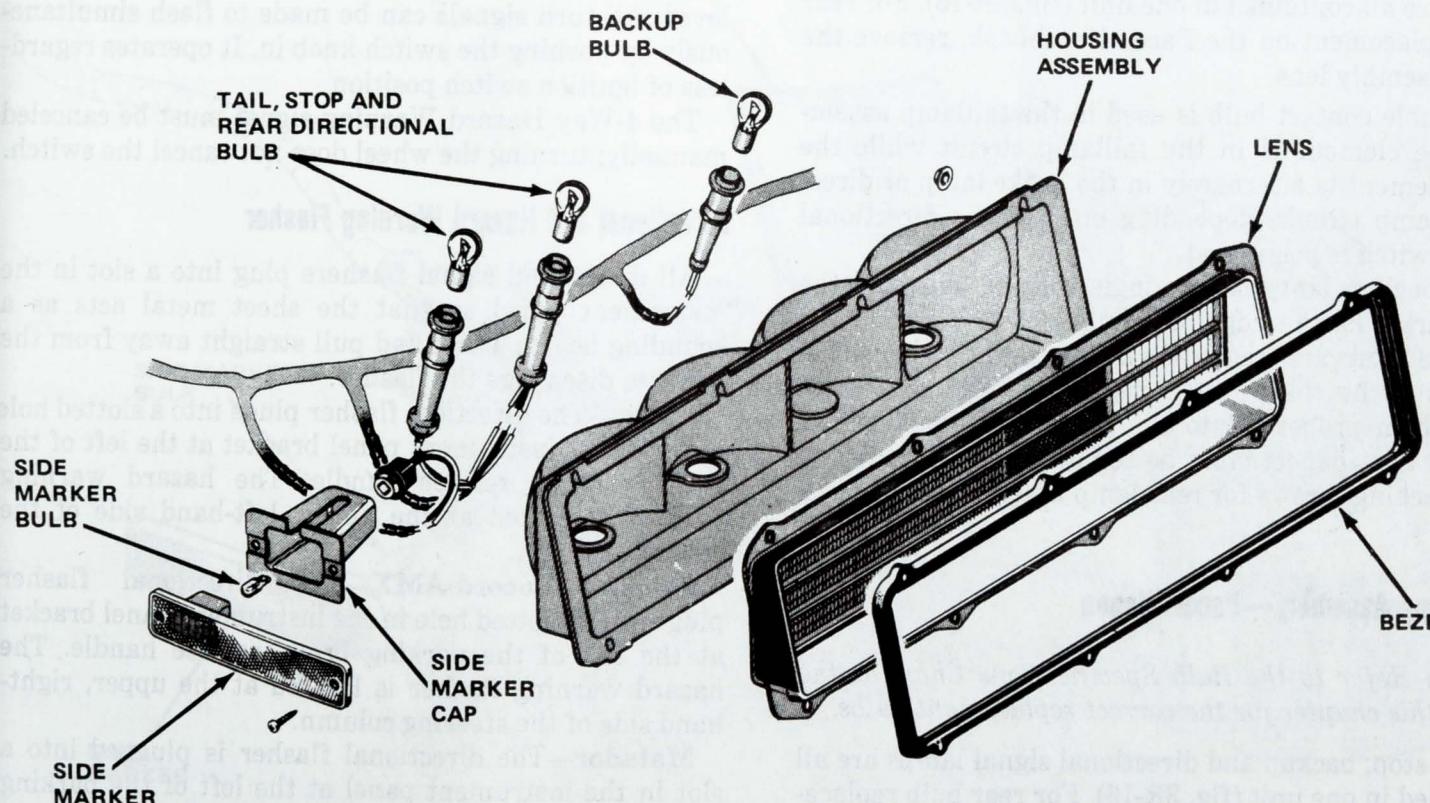


Fig. 3R-11 Rear Directional, Backup, Stop, Taillamps and Side Marker Lamp—Concord-AMX

80668

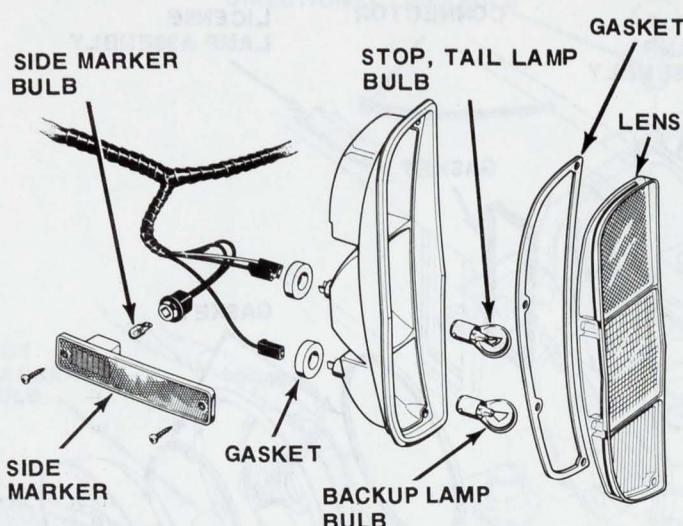


A41248

Fig. 3R-12 Rear Directional, Backup, Stop, Taillamps and Side Marker Lamp—Matador Coupe

A42227

Fig. 3R-13 Rear Directional, Backup, Stop, Taillamps and Side Marker Lamp—Matador Sedan



A41247

Fig. 3R-14 Rear Directional, Backup, Stop, Taillamps and Side Marker Lamp—Matador Station Wagon

Rear Lamp Assembly—Pacer Hatchback

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for the correct replacement bulbs.

Tail, stop, side marker, backup and directional signal lamps are all contained in one unit (fig. 3R-15). For rear bulb replacement on the Pacer Hatchback, remove the lamp assembly lens.

A double contact bulb is used in the taillamp assembly. One element is in the taillamp circuit while the other element is alternately in the brake lamp or directional lamp circuit, depending on how the directional signal switch is positioned.

The backup lamp has a single contact bulb and the side marker has a wedge-base bulb.

Bulb sockets are friction-fit in the rear lamp housings. Care must be taken when installing lamp sockets to index them properly into the lamp housing. The rear quarter trim panels must be removed to gain access to the attaching screws for rear lamp assemblies.

Rear Lamp Assembly—Pacer Wagon

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for the correct replacement bulbs.

Tail, stop, backup and directional signal lamps are all contained in one unit (fig. 3R-16). For rear bulb replacement on the Pacer Wagon, remove the rear speaker grille (and speaker, if equipped) to gain access to the lamp sockets.

A double contact bulb is used in the taillamp assembly. One element is in the taillamp circuit while the other element is alternately in the brake lamp or directional lamp circuit, depending on how the directional signal switch is positioned.

The backup lamp has a single contact bulb and the side marker has a wedge-base bulb.

Bulb sockets are of the twist-lock type in the rear lamp housings. Care must be taken when installing lamp sockets to index them properly into the lamp housing and twist them into the locked position.

The lens assembly is fastened and sealed to the housing by a small bead of butyl sealant. To remove the lens, use a wood dowel tool less than 1-inch diameter and approximately 10-inches long. Remove bulb socket and insert tool in socket opening to push out lens. As lens begins to breakaway from butyl sealant, use razor or knife to cut butyl sealant and remove lens.

DIRECTIONAL SIGNAL AND HAZARD WARNING SWITCH

The directional signal switch is mounted to a bracket at the upper end of the steering column jacket tube.

A lane changer is incorporated as standard equipment on all models. An intermediate stop position—left or right—permits the turn signal lights to indicate lane change by applying light finger pressure on the signal lever in either direction. When pressure on the lever is released, it will return to the OFF position.

The 4-Way Hazard Warning signal is standard on all models. The switch is mounted opposite the turn signal lever. All turn signals can be made to flash simultaneously by pushing the switch knob in. It operates regardless of ignition switch position.

The 4-Way Hazard Warning signal must be canceled manually; turning the wheel does not cancel the switch.

Directional and Hazard Warning Flasher

All directional signal flashers plug into a slot in the instrument panel so that the sheet metal acts as a sounding board. Twist and pull straight away from the panel to disengage the flasher.

Pacer—The directional flasher plugs into a slotted hole in the lower instrument panel bracket at the left of the parking brake release handle. The hazard warning flasher is located at the upper, left-hand side of the steering column.

Gremlin-Concord-AMX—The directional flasher plugs into a slotted hole in the instrument panel bracket at the left of the parking brake release handle. The hazard warning flasher is located at the upper, right-hand side of the steering column.

Matador—The directional flasher is plugged into a slot in the instrument panel at the left of the parking brake release handle.

The hazard warning flasher is located next to the dash connector.

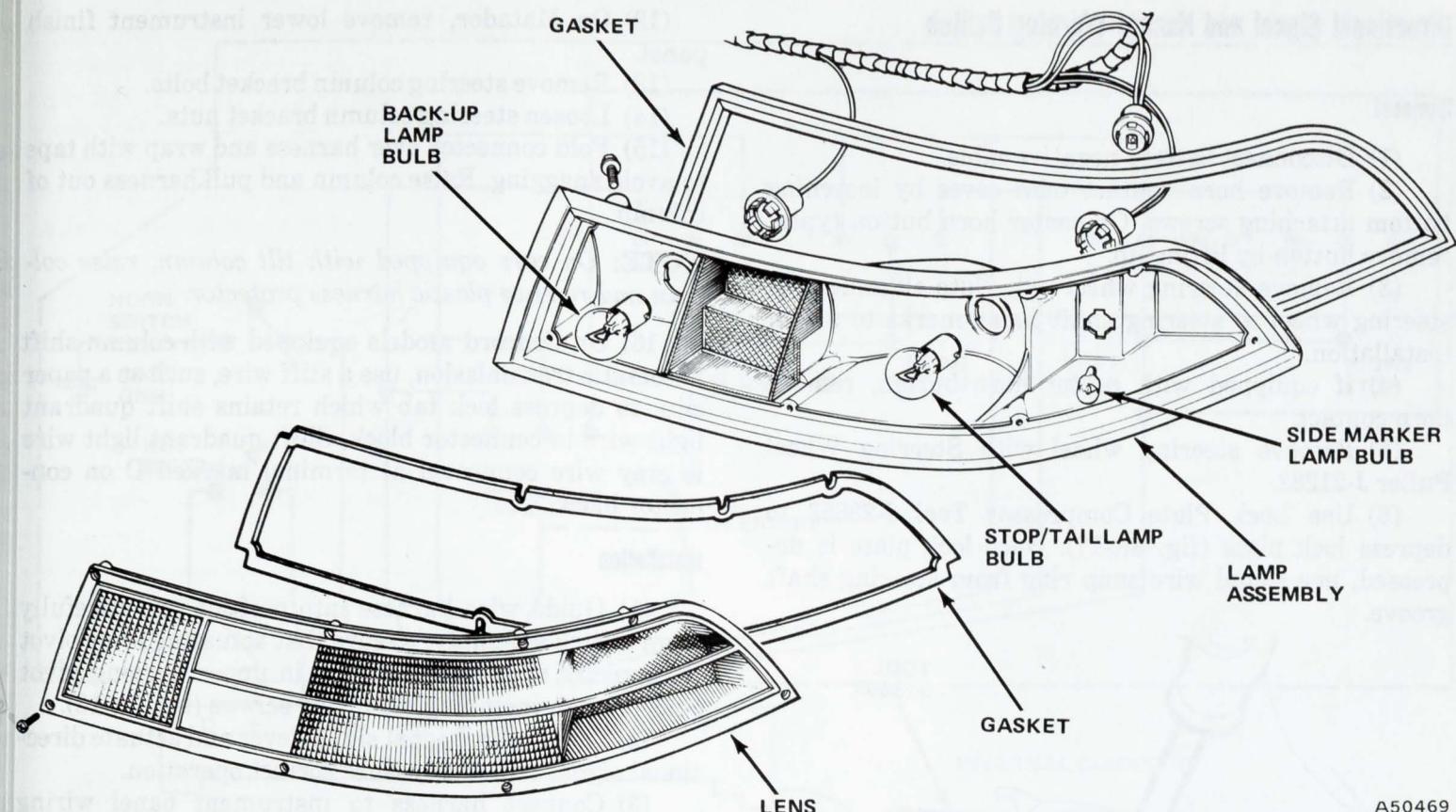


Fig. 3R-15 Rear Lamp Assembly—Pacer Hatchback

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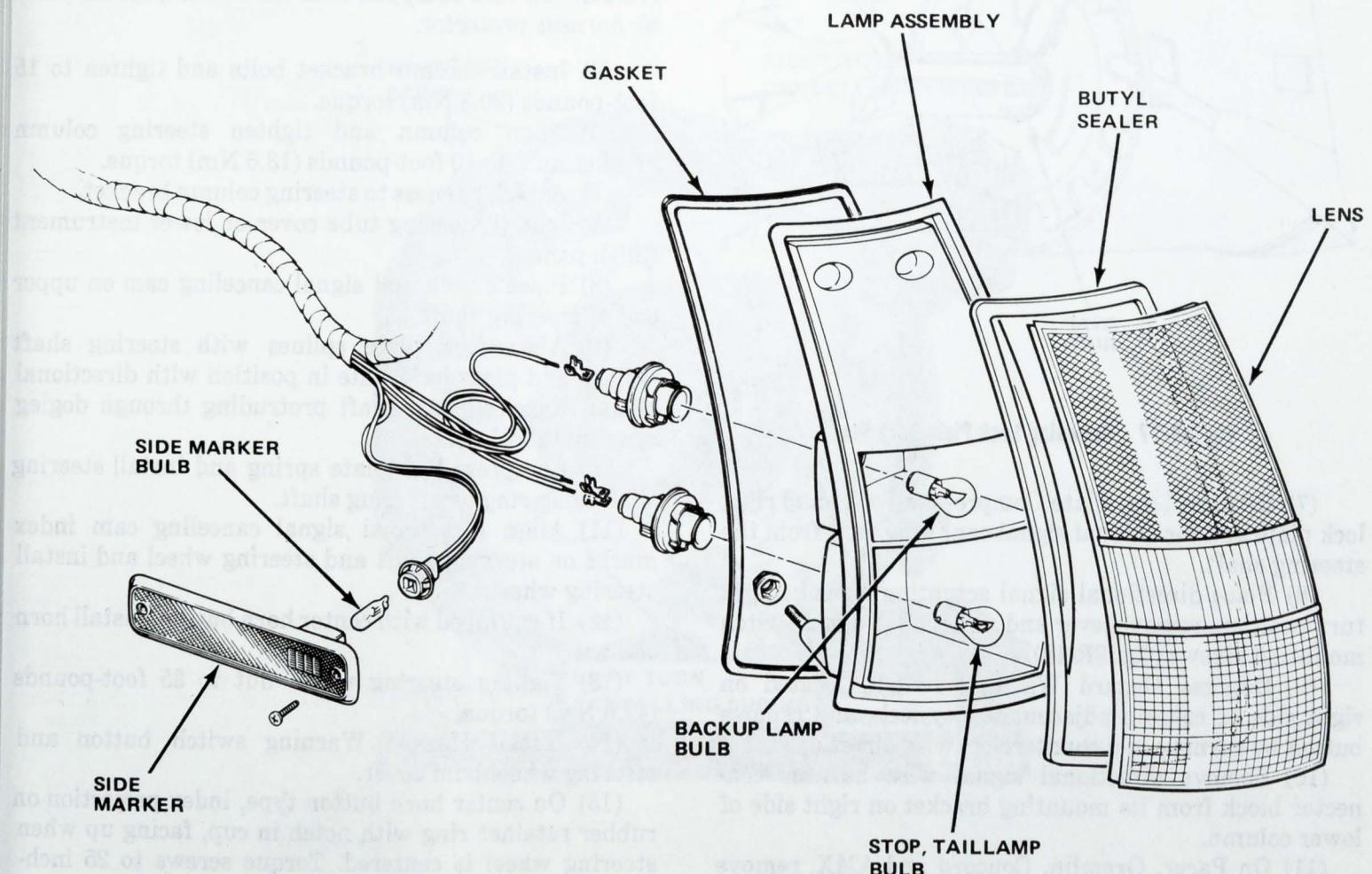
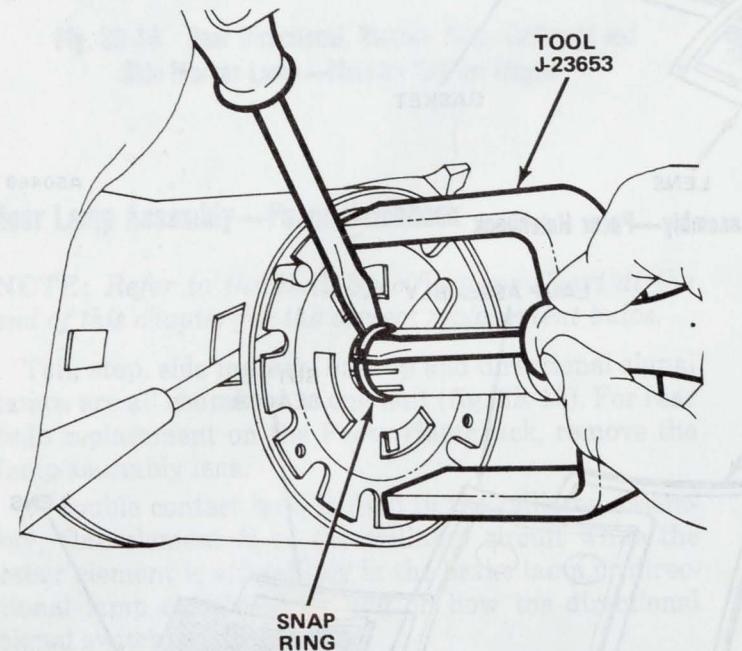


Fig. 3R-16 Rear Lamp Assembly—Pacer Wagon

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Directional Signal and Hazard Warning Switch**Removal**

- (1) Disconnect battery negative cable.
- (2) Remove horn contact trim cover by loosening bottom attaching screws. On center horn button types, remove button by lifting up.
- (3) Remove steering wheel nut. Note alignment of steering wheel to steering shaft index marks to aid in installation.
- (4) If equipped with center horn button, remove horn contact.
- (5) Remove steering wheel with Steering Wheel Puller J-21232.
- (6) Use Lock Plate Compressor Tool J-23653 to depress lock plate (fig. 3R-17). Once lock plate is depressed, pry round wire snap ring from steering shaft groove.

**Fig. 3R-17 Removing Lock Plate Snap Ring**

- (7) Remove Lock Plate Compressor Tool, snap ring, lock plate and directional signal canceling cam from the steering shaft.
- (8) Place directional signal actuating lever in right turn position, remove lever and directional signal switch mounting screws (fig. 3R-18).
- (9) Depress Hazard Warning switch, located on right side of column adjacent to key lock, and remove button by turning in a counterclockwise direction.
- (10) Remove directional signal wire harness connector block from its mounting bracket on right side of lower column.
- (11) On Pacer, Gremlin, Concord and AMX, remove steering tube cover.

- (12) On Matador, remove lower instrument finish panel.
- (13) Remove steering column bracket bolts.
- (14) Loosen steering column bracket nuts.
- (15) Fold connector over harness and wrap with tape to avoid snagging. Raise column and pull harness out of column.

NOTE: On cars equipped with tilt column, raise column and remove plastic harness protector.

- (16) On Concord models equipped with column shift automatic transmission, use a stiff wire, such as a paper clip, to depress lock tab which retains shift quadrant light wire in connector block. Shift quadrant light wire is grey wire connected at terminal marked D on connector block.

Installation

- (1) Guide wire harness into position and carefully align switch assembly. Assure that actuating lever pivot is correctly aligned and seated in upper housing pivot boss prior to installing mounting screws (fig. 3R-18).

- (2) Install directional signal lever and actuate directional signal switch to assure correct operation.
- (3) Connect harness to instrument panel wiring harness.

NOTE: On cars equipped with tilt column, install plastic harness protector.

- (4) Install column bracket bolts and tighten to 15 foot-pounds (20.3 Nm) torque.
- (5) Align column and tighten steering column bracket nuts to 10 foot-pounds (13.6 Nm) torque.
- (6) Attach harness to steering column bracket.
- (7) Install steering tube cover or lower instrument finish panel.
- (8) Place directional signal canceling cam on upper end of steering shaft.

- (9) Align lock plate splines with steering shaft splines and place lock plate in position with directional signal canceling cam shaft protruding through dogleg opening in lock plate.

- (10) Compress lock plate spring and install steering shaft snap ring on steering shaft.

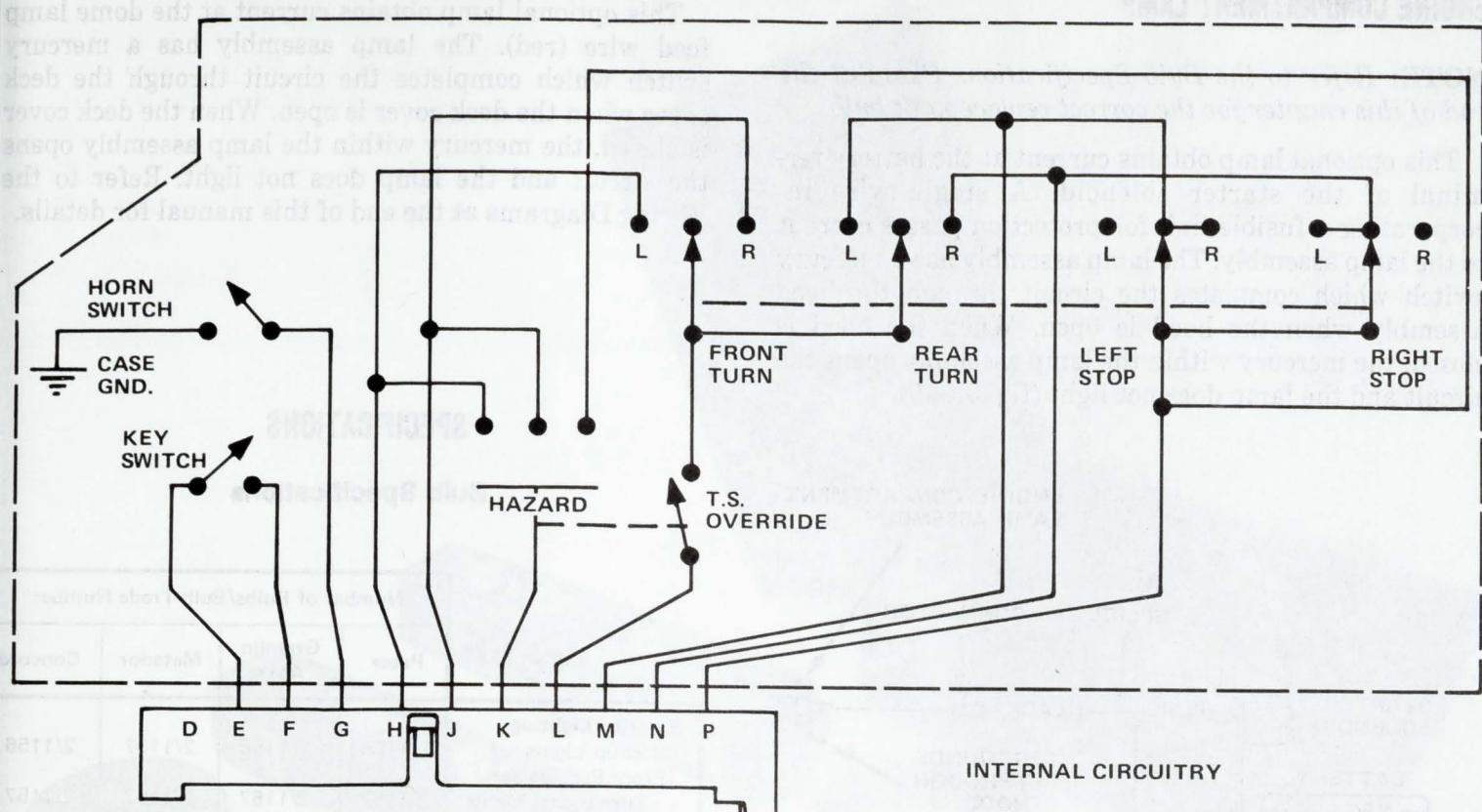
- (11) Align directional signal canceling cam index marks on steering shaft and steering wheel and install steering wheel.

- (12) If equipped with center horn button, install horn contact.

- (13) Tighten steering wheel nut to 35 foot-pounds (47.5 Nm) torque.

- (14) Install Hazard Warning switch button and steering wheel trim cover.

- (15) On center horn button type, index projection on rubber retainer ring with notch in cup, facing up when steering wheel is centered. Torque screws to 25 inch-pounds (2.8 Nm).



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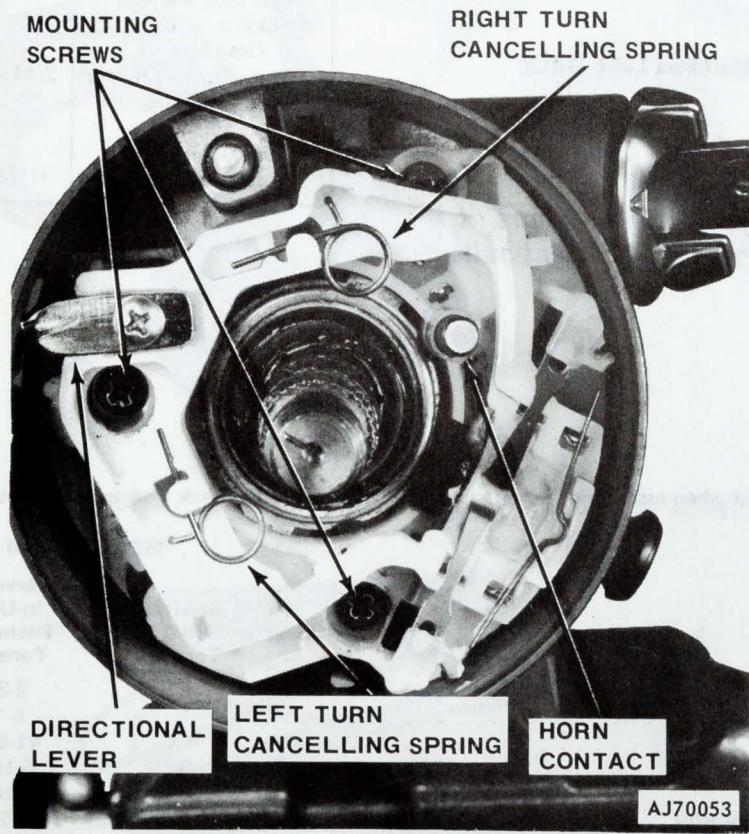


Fig. 3R-18 Directional Switch and Internal Circuitry

ENGINE COMPARTMENT LAMP

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for the correct replacement bulb.

This optional lamp obtains current at the battery terminal of the starter solenoid. A single wire incorporating a fusible link for protection passes current to the lamp assembly. The lamp assembly has a mercury switch which completes the circuit through the hood assembly when the hood is open. When the hood is closed, the mercury within the lamp assembly opens the circuit and the lamp does not light (fig. 3R-19).

This optional lamp obtains current at the dome lamp feed wire (red). The lamp assembly has a mercury switch which completes the circuit through the deck cover when the deck cover is open. When the deck cover is closed, the mercury within the lamp assembly opens the circuit and the lamp does not light. Refer to the *Wiring Diagrams* at the end of this manual for details.

SPECIFICATIONS**Bulb Specifications**

	Number of Bulbs/Bulb Trade Number			
	Pacer	Gremlin, AMX	Matador	Concord
Exterior Lighting				
Backup Lights	2/1156	2/1156	2/1157	2/1156
Front Parking and Turn Signal Lights	2/1157	2/1157	2/1157	2/1157 NA
Front Side Marker Headlights	2/194 2/6014	2/194 2/6014	2/194 2/6014	2/194 2/6052
Rear License Plate (replace as a unit)	—	—	—	—
Rear Side Marker Lights	2/194	—	2/194	2/194
Gremlin	—	2/194	—	—
Stop-Turn-Tailgates	2/1157	2/1157	4/1157	—
Stop-Tailgates	—	—	—	2/1157
Turn-Rear	—	—	—	2/1156
Trunk Light	—	1/89	1/89	1/89
Under Hood Light	1/105	1/105	1/105	1/105

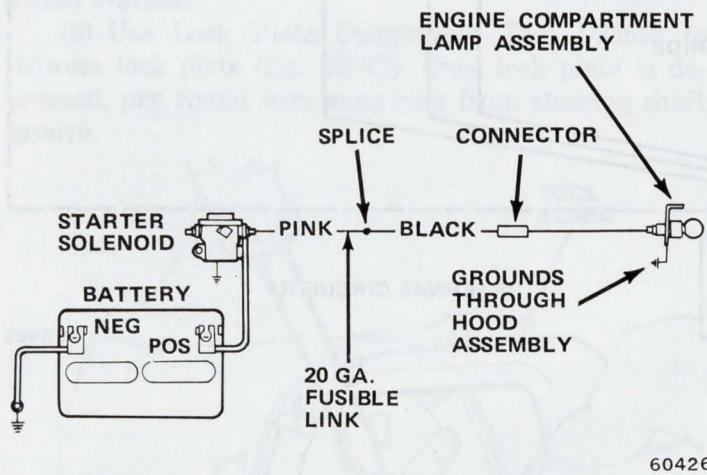


Fig. 3R-19 Engine Compartment Lamp Wiring

TRUNK LAMP

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for the correct replacement bulb.

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Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

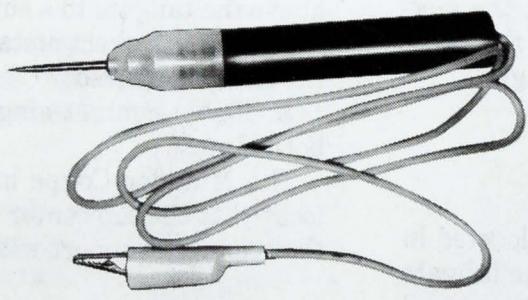
	METRIC (N·m)		USA (in-lbs.)	
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Directional Signal Switch Handle	3	2-3	25	15-30
Hazard Warning Knob Mounting Screws	1	.5-1	5	2-5
Steering Wheel Nut	47	41-54	35 ft-lbs.	30-40 ft-lbs.
Tail Lamps to Body—Pacer	8	6-10	73	55-90
Tail Lamps to Body—Concord	8	6-10	73	55-90
Tail Lamp Lens to Tail Lamp—Matador S/W	2	1-2	15	5-20
Extension Rear Quarter Panel Tail Lamp Mounting—Matador S/W	8	6-10	73	55-90
Tail Lamp and Bezel to Body—Matador Sedan	8	6-10	73	55-90
Tail Lamp Assembly to Body—Matador Sedan	8	6-10	73	55-90

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

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Special Tools

J-25300-10
HEADLIGHT AIMER



J-21008
CONTINUITY LIGHT



J-23653
PLATE
COMPRESSOR

INTERIOR LIGHTING SYSTEMS

NOTE: Refer to the *Bulb Specifications Chart at the end of this chapter* for the correct replacement bulbs.

This optional lamp obtains power from the main fuse panel of the interior system. It is incorporated in a fusible link which connects to the lamp assembly. The switch which completes

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Cargo Lamp	3R-16
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ASH TRAY LAMP

Pacer-Matador

NOTE: Refer to the *Bulb Specifications Chart at the end of this chapter* for the correct replacement bulbs.

This system obtains current at the 4-amp panel lamps fuse and grounds through the ashtray lamp socket. The ashtray lamp is lighted when the headlamp switch is turned on. Refer to the Wiring Diagrams at the end of this manual for details.

Gremlin-Concord-AMX

The Gremlin-Concord-AMX ashtray uses the heater/air conditioning control panel lamp for illumination.

CARGO LAMP

NOTE: Refer to the *Bulb Specifications Chart at the end of this chapter* for the correct replacement bulbs.

Pacer Wagon

The Pacer Wagon cargo lamp is located in the headlining and controlled by a switch attached to the liftgate. The mercury switch completes the ground circuit for the cargo lamp, dome lamp and courtesy lamps when the liftgate is opened. When the liftgate is closed, the mercury within the switch opens the circuit and the cargo lamp, dome lamp and courtesy lamps do not light.

Matador Station Wagon

The Matador Station Wagon cargo lamp is located in the headliner and controlled by a switch in the tailgate opening. The mechanical switch completes the ground circuit for the cargo lamp when the tailgate is open. When the tailgate is closed, the mechanical switch opens the circuit and the cargo lamp does not light.

Cargo Area Lamp Switch

Pacer-Concord-AMX

This system adds an additional ground switch at the liftgate to the dome/courtesy lamp circuit. It operates the dome/courtesy lamps when the liftgate is opened. Refer to Wiring Diagrams at the end of this manual for details.

COURTESY LAMPS

NOTE: Refer to the *Bulb Specifications Chart at the end of this chapter* for the correct replacement bulbs.

This system includes courtesy lamp assemblies mounted under each end of the instrument panel. The two courtesy lamps are wired to the dome lamp circuit and operate together with it. Refer to the Wiring Diagrams at the end of this manual for details.

DOME LAMP

NOTE: Refer to the *Bulb Specifications Chart at the end of this chapter* for the correct replacement bulbs.

The Sedan dome lamp and Station Wagon cargo lamps are similar, consisting of the base reflector, bulb, socket with two wires, and the lens.

The dome lamp is fastened to the roof support, with two sheet metal screws, while the cargo lamp is fastened above the tailgate to a support bracket. The lamp base is attached with sheet metal screws which are visible after the lens is removed.

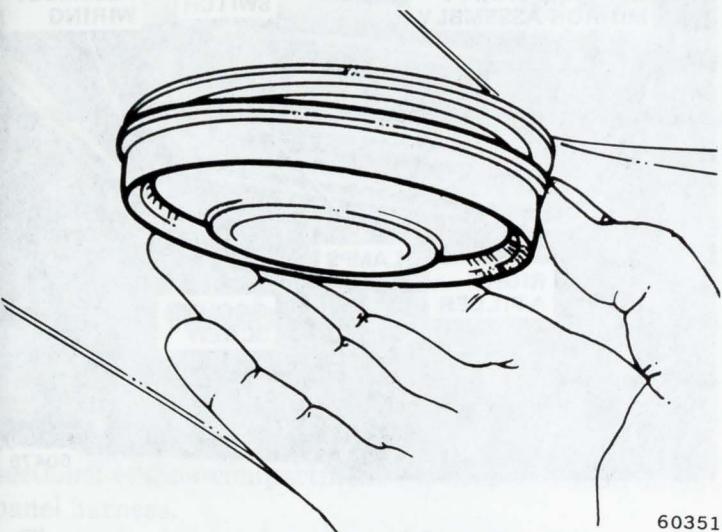
A double contact single filament bulb is utilized in both lamps.

The Matador Coupe has an optional rear shelf lamp located at the top center of the rear seat. It is secured to the rear seat support with two sheet metal screws.

Lens Replacement

The dome lens is molded nylon with a metallized surface band to simulate the appearance of a chrome bezel.

Three irregularly spaced barbed tabs on the lens are inserted into slots in the dome lamp base to retain it. The lens is removed by pulling it downward or by prying it down with a small screwdriver (fig. 3R-20).



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Fig. 3R-20 Removing Dome Lamp Lens

To install, align the lens tabs with the proper slots and snap it into place. To remove the rear seat lens, squeeze the lens together to disengage the retaining tabs.

DOME/READING LAMP

NOTE: Refer to the Bulb Specifications Chart at the end of this chapter for the correct replacement bulbs.

The dome/reading lamp replaces the standard dome lamp as an optional accessory. The dome lamp is operated by the headlamp switch or door switches like the standard dome lamp. Two reading lamps are built into the lamp housing and illuminate the driver or passenger seat position. The reading lamps are operated individually by a sliding switch located next to each reading lamp (fig. 3R-21).

On Pacer, Gremlin, Concord, AMX, and Matador Sedan and Station Wagon models, the reading lamps are grounded through the lamp assembly attaching screws to the roof panel.

On the Matador Coupe, the reading lamps are grounded through a wire attached to the dome lamp retainer and routed behind the headlining (fig. 3R-22) to a ground screw located at the top of the left C-pillar.

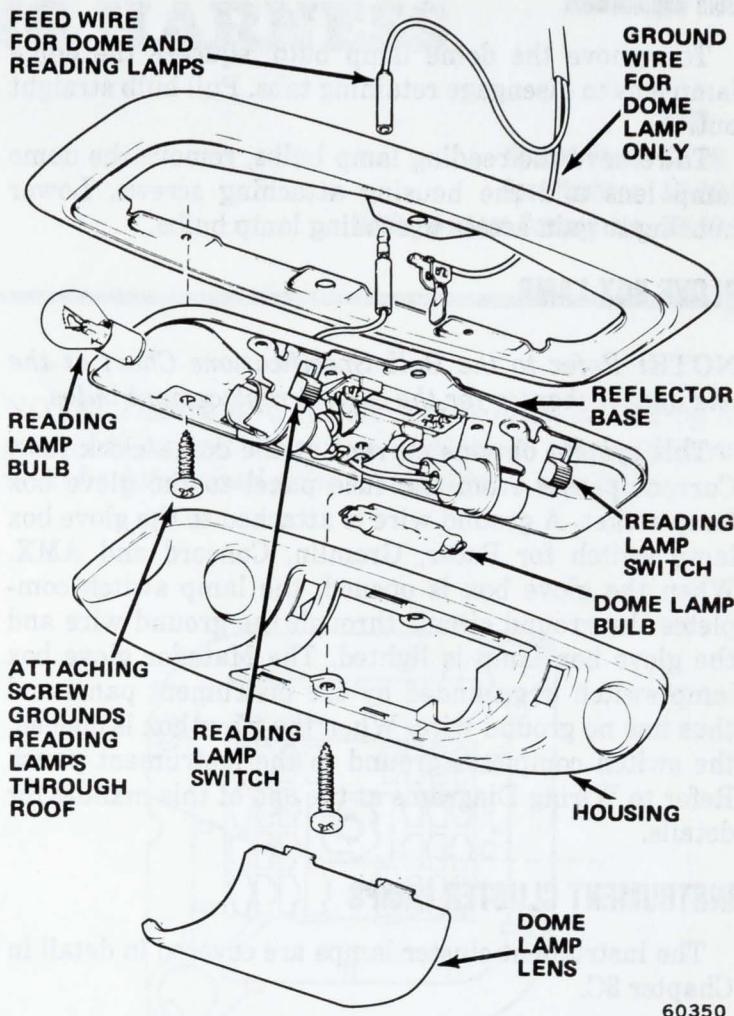
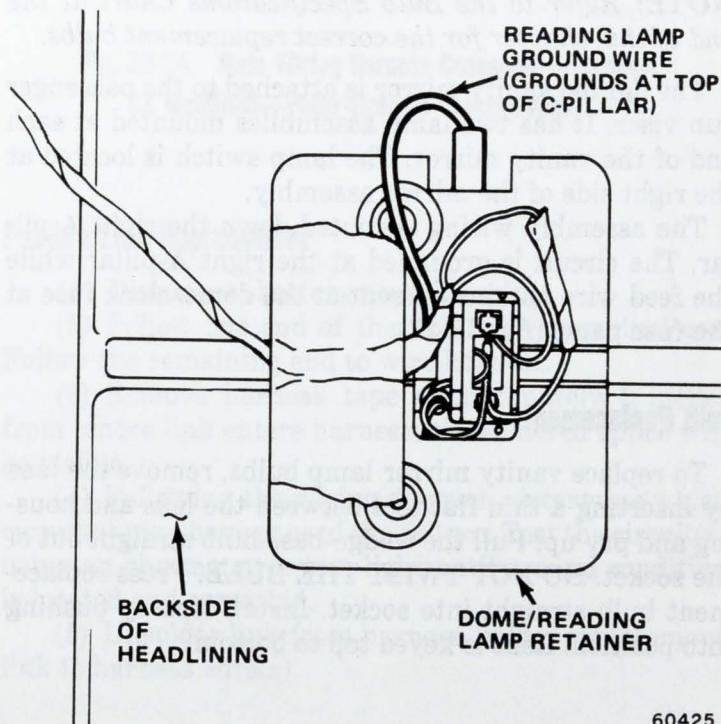


Fig. 3R-21 Dome/Reading Lamp



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Fig. 3R-22 Reading Lamp Ground Circuit—Matador Coupe

Bulb Replacement

To remove the dome lamp bulb, squeeze the dome lamp lens to disengage retaining tabs. Pull bulb straight out.

To remove the reading lamp bulbs, remove the dome lamp lens and the housing attaching screws. Lower housing to gain access to reading lamp bulbs.

GLOVE BOX LAMP

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for the correct replacement bulbs.

This system obtains current at the dome/clock fuse. Current passes from the fuse panel to the glove box lamp socket. A ground wire is attached to the glove box lamp switch for Pacer, Gremlin, Concord and AMX. When the glove box is opened, the lamp switch completes the ground circuit through the ground wire and the glove box lamp is lighted. The Matador glove box lamp switch is grounded by the instrument panel and thus has no ground wire. When the glove box is opened, the switch completes ground to the instrument panel. Refer to *Wiring Diagrams* at the end of this manual for details.

INSTRUMENT CLUSTER LAMPS

The instrument cluster lamps are covered in detail in Chapter 3C.

LIGHTED VANITY MIRROR

NOTE: Refer to the *Bulb Specifications Chart* at the end of this chapter for the correct replacement bulbs.

The lighted vanity mirror is attached to the passenger sun visor. It has two lamp assemblies mounted at each end of the vanity mirror. The lamp switch is located at the right side of the mirror assembly.

The assembly wiring is routed down the right A-pillar. The circuit is grounded at the right A-pillar while the feed wire obtains current at the dome/clock fuse at the fuse panel (fig. 3R-23).

Bulb Replacement

To replace vanity mirror lamp bulbs, remove the lens by inserting a thin flat tool between the lens and housing and pry up. Pull the wedge-base bulb straight out of the socket. DO NOT TWIST THE BULB. Press replacement bulb straight into socket. Install lens by pushing into position. Lens is keyed top to bottom.

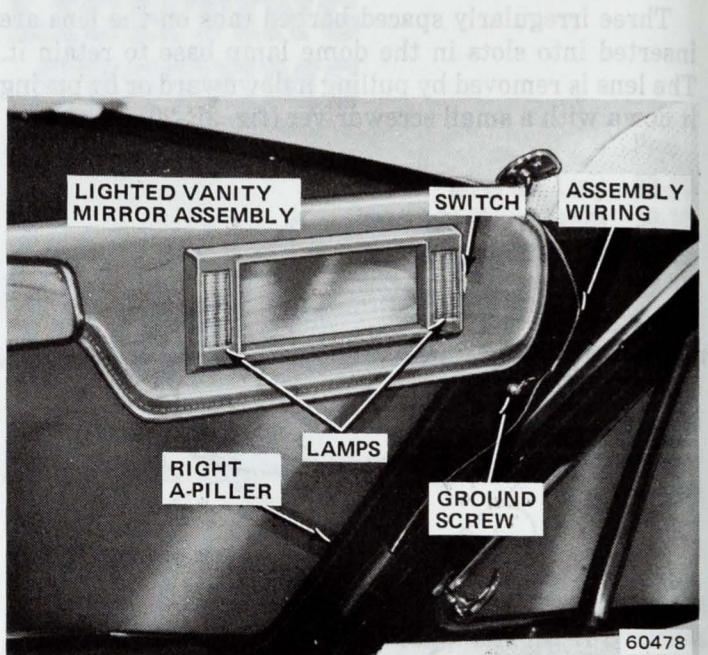


Fig. 3R-23 Lighted Vanity Mirror

SPECIFICATIONS**Bulb Specifications**

	Number of Bulbs/Bulb Trade Number		
	Pacer	Gremlin, Concord, AMX	Matador
Interior Lighting			
Ashtray	1/144	—	1/445
Cargo Area Light	1/212-2	—	1/561
Courtesy Lights	2/561	2/561	2/561
Dome Light	1/561	1/561	1/561
Dome/Reading Light	1/561	1/561	1/561
	&2/1004	&2/1004	&2/1004
Gearshift Lever Indicator			
With Tilt Steering Wheel	—	1/1445	—
Without Tilt Steering Wheel	—	1/1815	—
Floor Shift	1/1445	1/1445	1/1445
Lighted Vanity Mirror	2/74	2/74	2/74
Rear Seat Lamp	—	—	1/561
Trunk Light	—	1/89	1/89
Underhood Light	1/93	1/93	1/93
	or 1/105	or 1/105	or 1/105

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CHASSIS WIRING HARNESS

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WIRING HARNESS COMPONENTS

Main Harness Connector

All models have a main wiring harness connector located at the left upper corner of the dash panel. This connector divides the chassis harness into two separate sections: engine compartment harness and instrument panel harness.

The connector can be removed from the dash panel by removing the center bolt from the engine compartment side and the two attaching screws from the driver's side. Be careful not to bend the male spade terminals when removing or installing the connector. The center of the connector is filled with a non-conductive grease to prevent corrosion of the terminals. If any wires are replaced on the engine compartment side, the terminal opening must be resealed with a durable waterproof sealer. **Do not use string-type body caulk as a sealer.**

Figure 3R-24 shows the connector as viewed from the inside of the car. The columns are lettered horizontally and vertically.

The Matador connector is similar to the Pacer-Gremlin-Concord-AMX except more terminal openings are normally used on the Matador.

Each circuit routed through the harness connector is coded with two letters. These letters are used to identify the terminal location of a particular wire. To locate a terminal, sight an imaginary line across both columns. The terminal at which the two lines intersect is the proper terminal for that wire.

Fusible Links

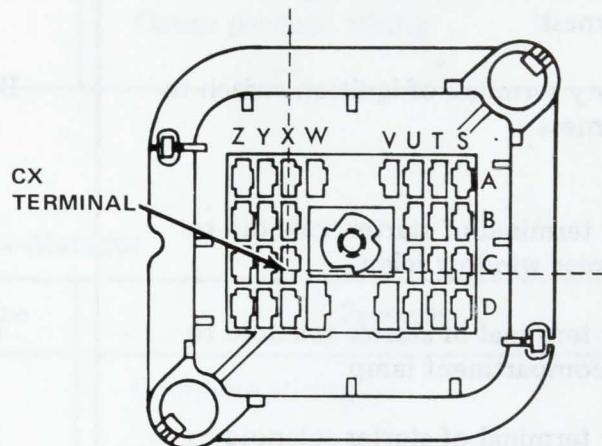
Fusible links are harness wires covered with a special non-flammable insulation. The links protect circuits which are not normally fused due to carrying high amperage loads or because of their location in the chassis.

They are used to prevent major harness damage in the event a short circuit, short to ground or overload condition occurs.

All models are equipped with fusible links, which protect the circuits shown in the Fusible Link Charts.

Each link is of a fixed value for the specific load. Replacement links are listed in the AMC parts catalog.

NOTE: Failure of a fusible link is often caused by a grounded circuit; therefore, the cause of the failure must be determined prior to installing a new link.



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Fig. 3R-24 Main Wiring Harness Connector—Terminal CX Identified—Pacer-Gremlin-Concord-AMX

Fusible Link Replacement

- (1) Disconnect battery negative cable.
- (2) Follow one end of the link to the terminal end. Follow the remaining end to wire harness.
- (3) Remove harness tape approximately 2 inches from where link enters harness; the soldered splice will be visible.
- (4) Following the wiring diagram, determine which circuit(s) may have caused the failure. Test the circuit(s) using an ohmmeter or test light until ground condition is located and corrected.
- (5) Unsolder link from harness, solder replacement link to harness wire(s).

NOTE: Solder joint **MUST** be made with rosin core solder only. **DO NOT** use acid or acid core solder. Protect harness wires from damage when soldering.

- (6) Tape harness using plastic electrical tape.
- (7) Route wire as originally installed and make connection.
- (8) Connect battery negative cable and check operation of the circuit(s) involved.

CAUTION: Make certain the fusible links located under the instrument panel are covered with the protective loom.

Fusible Links—Pacer

Location	Color	Protects
Battery terminal of starter relay to main wire harness	Red	Complete Wiring
Battery terminal of horn relay to main wire harness	Pink	Horn Circuit
Accessory terminal of ignition switch to wire harness	Brown	Cigarette Lighter, All Accessories from Fuse Panel, Electric Windshield Wiper, and Liftgate Wiper
Battery terminal of starter solenoid to heated rear window relay	Red	Electric Heated Rear Window
Battery terminal of starter solenoid to engine compartment lamp	Pink	Engine Compartment Lamp
Battery terminal of starter solenoid to A/C blower motor relay	Red	A/C Blower Motor Relay
S terminal of ignition switch to wire harness	Dark Green	Feed to Starter Solenoid S Terminal
Battery terminal of starter solenoid to splice A	Pink	Rally Package Ammeter
Block terminal to splice B in Rally Package Harness	Pink	Rally Package Ammeter

50479A

Fusible Links—Gremlin-Concord-AMX

Location	Color/Size	Protects
Battery terminal of starter solenoid to main wire harness	Red 16 ga	Complete wiring
Battery terminal of horn relay to main wire harness	Pink 20 ga	Horn circuit
Battery terminal of starter solenoid to heated rear window relay	Red 16 ga	Electric heated rear window
Engine compartment splice "B" to dash connector DZ	Red 18 ga	Headlight switch circuit/battery feed circuit to fuse panel
Battery terminal of starter solenoid to engine compartment lamp wire	Pink 20 ga	Engine compartment lamp
Battery terminal of starter solenoid to gauge package harness	Pink 20 ga	Gauge package wiring

50479B

Fusible Links—Matador

Location	Color/Size	Protects
Battery terminal of starter solenoid to main wire harness	Red 16 ga	Complete wiring
Battery terminal of horn relay to main wire harness	Pink 20 ga	Horn circuit
Battery terminal of starter solenoid to heated rear window relay	Red 16 ga	Electric heated rear window
Battery terminal of starter solenoid to engine compartment lamp wire	Pink 20 ga	Engine compartment lamp
B-3 terminal of ignition switch to circuit breaker	Red	Tailgate regulator motor when operated by tailgate key switch (wagon only)

50479C

IGNITION SWITCH

The ignition switch is mounted on the lower section of the steering column and is connected to the key lock assembly by a remote lock rod.

Removal

NOTE: On Pacer, it may be necessary to remove the steering tube cover and AC duct to gain access to the ignition switch.

- (1) On Gremlin-Concord-AMX, remove package tray, if equipped.
- (2) Place key lock in OFF LOCK position and remove two switch attaching screws.
- (3) Disconnect switch from remote rod.
- (4) Disconnect black harness connector then white connector and remove switch from steering column.

Testing

The ignition switch terminals are shown in figure 3R-25.

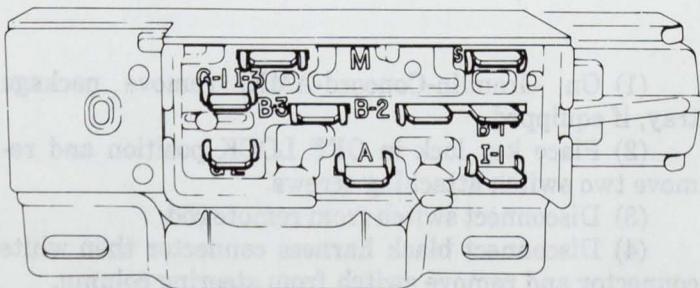
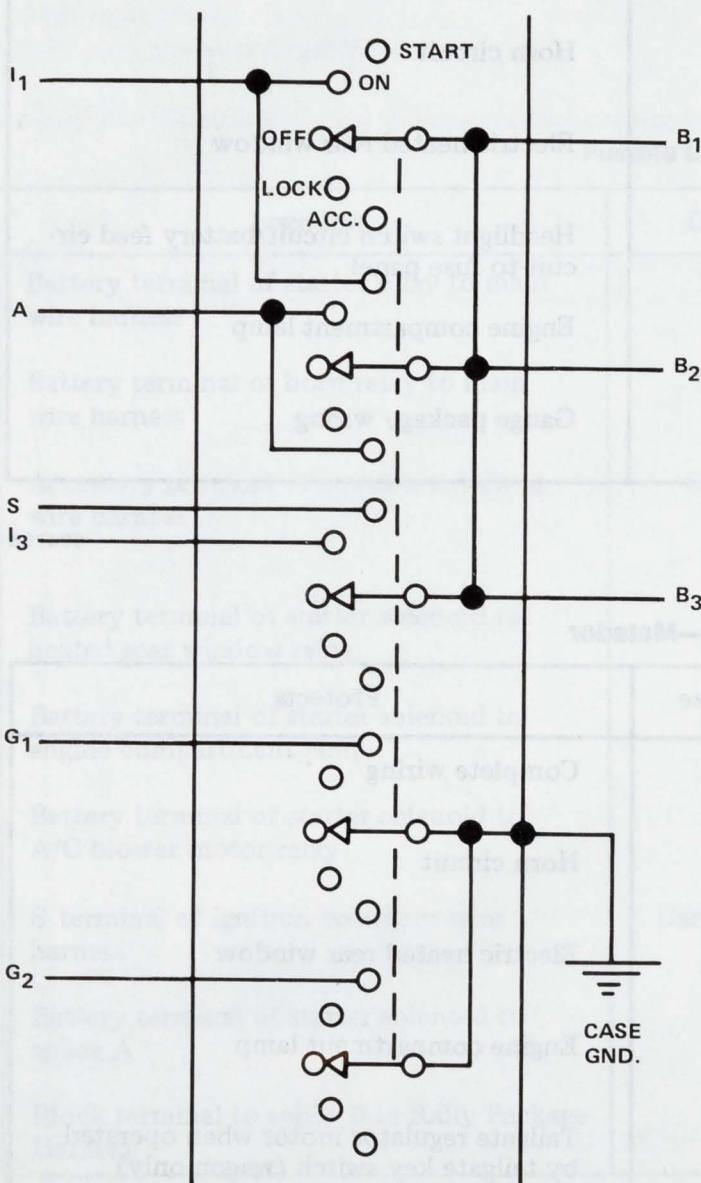


Fig. 3R-25 Ignition Switch Terminals

To test the ignition switch circuitry and continuity, place the slide bar in the position to be tested and use either an ohmmeter or Continuity Light J-21008.

Ignition switch slide bar positions can be easily identified by first locating the alignment hole located in the flat portion of the switch adjacent to the terminals. Starting from the alignment hole end of the switch, the switch positions are: ACCESSORY, OFF-LOCK, OFF, ON, and START. Each position has a detent stop except START which is spring loaded to release when the key is released.

No electrical resistance should be indicated (test lamp on) between two connected terminals. The maximum voltage drop between any two connected terminals, as shown in the Ignition Switch Chart, should not exceed 12.5 millivolts per amp. For example: If a 10-amp load is drawn through the switch, maximum voltage drop should be 10×0.0125 or 0.125 volt.

Ignition Switch

POSITION	CIRCUIT	
START	I-1, B-1 & S G-1, G-2	CONNECTED GROUNDED
ON	I-1 & B-1 A & B-2 1-3 & B-3	CONNECTED CONNECTED CONNECTED
OFF		OPEN
OFF-LOCK		OPEN
ACC.	A & B-2	CONNECTED

NOTE: B-1, B-2, & B-3 ARE COMMON CONNECTION

A43143

Installation

Standard Column

(1) With actuator rod disconnected, position switch as shown in figure 3R-26.

(2) Move slider to extreme left (ACCESSORY position).

NOTE: The left side of the ignition switch is toward the steering wheel.

(3) Position actuator rod in the slider hole and install switch to steering column being careful not to move the slider out of the detent.

(4) Hold key in ACCESSORY position and push switch down column slightly to remove slack in actuator rod.

(5) Tighten attaching screws securely.

(6) Connect white connector and then black connector to switch.

(7) Install steering tube cover or package tray, if removed.

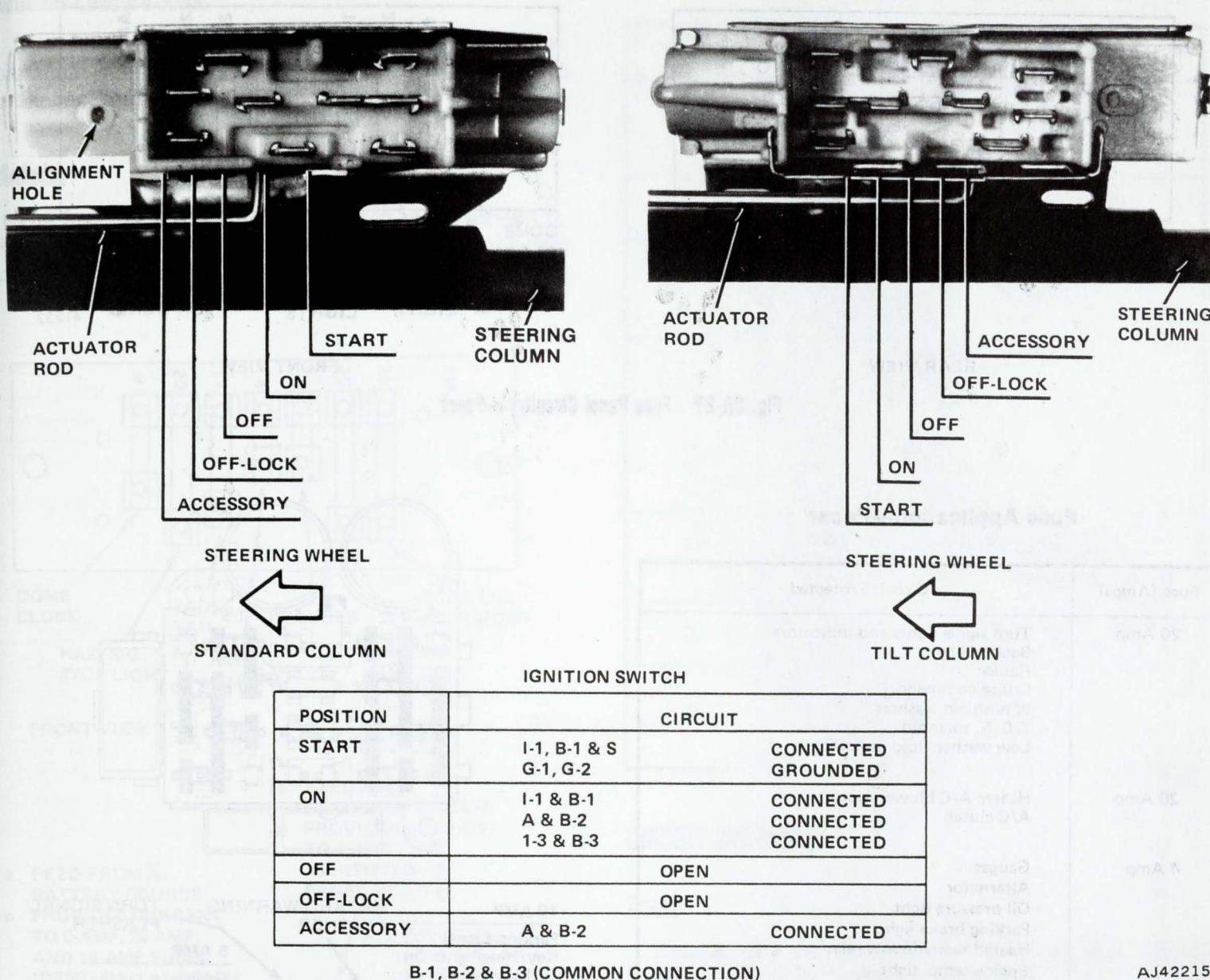


Fig. 3R-26 Ignition Switch Positions

AJ42215

Tilt Column

- (1) With actuator rod disconnected, position switch as shown in figure 3R-26.
- (2) Move slider to extreme right (ACCESSORY position).

NOTE: The right side of the ignition switch is downward from the steering wheel.

- (3) Position actuator rod in slider hole.
- (4) Install switch to steering column but do not tighten attaching screws.
- (5) Lightly push switch down column (away from steering wheel) to remove lash in actuator rod, while

holding key in ACCESSORY position. Be careful not to move slider out of detent.

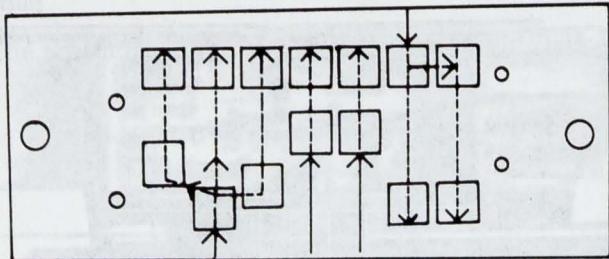
(6) Tighten attaching screws securely.

(7) Connect white connector and then black connector to ignition switch.

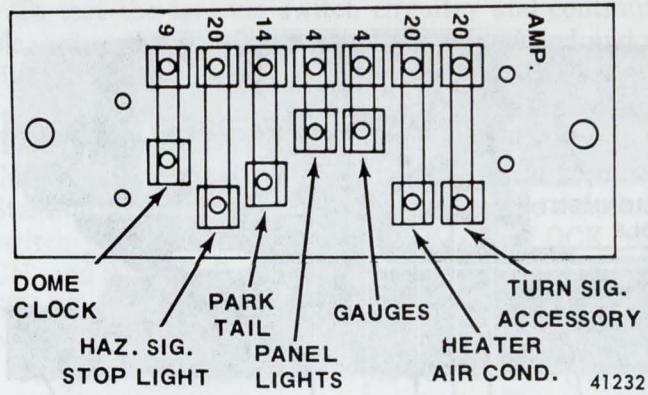
(8) Install steering tube cover or package tray, if removed.

FUSE PANEL**Pacer**

The fuse panel (fig. 3R-27) is located to the left of the glove box. For access to the fuses, release latch at right side of glove box and tilt glove box rearward.



REAR VIEW



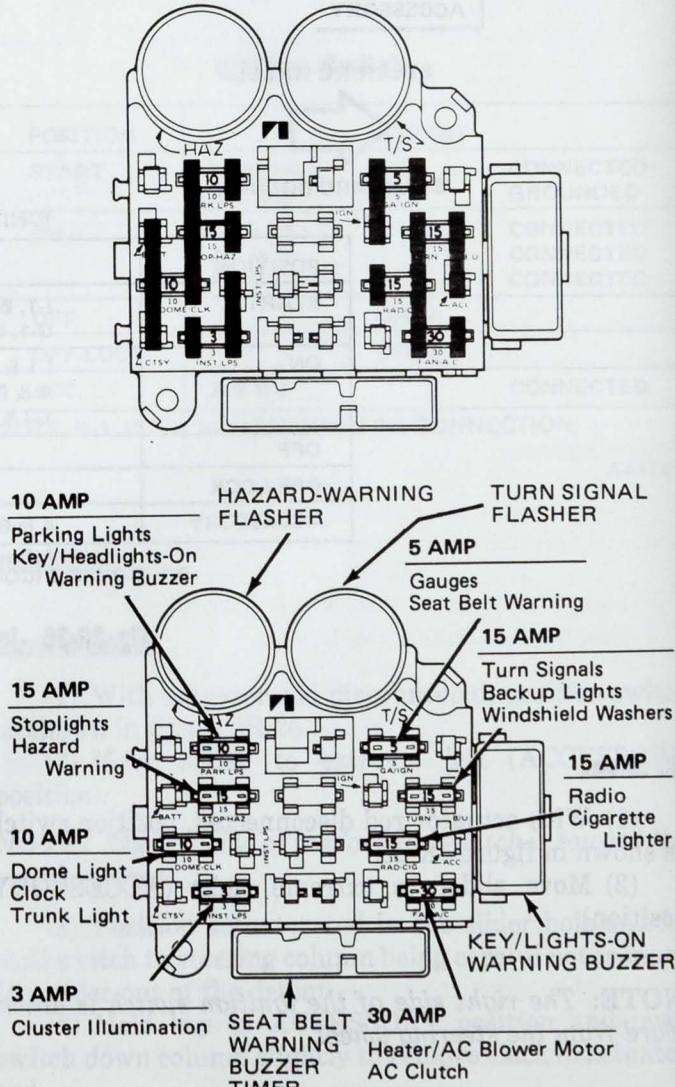
FRONT VIEW

Fig. 3R-27 Fuse Panel Circuitry—Pacer

Fuse Application—Pacer

Fuse (Amps)	Circuit Protected
20 Amp	Turn signal lights and indicators Backup lights Radio Cruise command Windshield washers T. C. S. solenoid Low washer fluid indicator
20 Amp	Heater-A/C blower motor A/C clutch
4 Amp	Gauges Alternator Oil pressure light Parking brake light Heated rear window relay Engine temp. light Seat belt system
4 Amp	Cluster lights Lights & wiper light Clock light Heater control light Radio light Ash tray light
14 Amp	Side marker lights Front parking lights License plate lights Taillights Key and headlight warning buzzer
20 Amp	Stoplights 4-way flasher lights & indicators
9 Amp	Dome light Courtesy lights Glove box light Clock feed

60343



80042

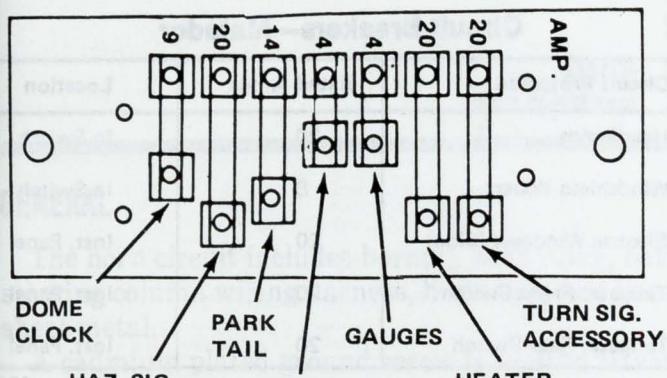
Fig. 3R-28 Fuse Panel Circuitry and Fuse Application—Gremlin-Concord-AMX

Gremlin-Concord-AMX

The fuse panel is located on the passenger compartment side of the dash panel, adjacent to the park brake mechanism (fig. 3R-28).

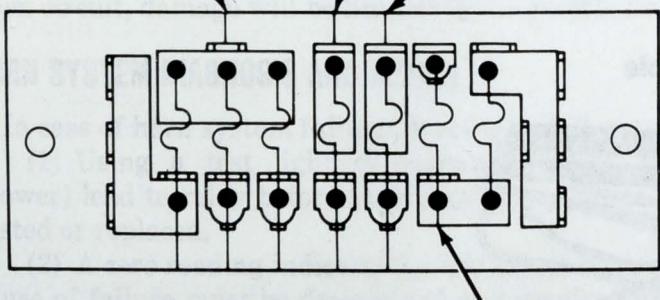
Matador

The fuse panel (fig. 3R-29) is located in the glove box. For access to the fuses, remove the sheet metal screw attaching the protective cover.



FRONT VIEW

- FEED FROM A BATTERY SOURCE
- PROVIDES CURRENT TO 9-AMP, 20 AMP, AND 14-AMP FUSES IDENTIFIED AS DOME/CLOCK, HAZ. SIG./STOP LIGHT, AND PARK/TAIL RESPECTIVELY
- FEED FROM HEADLAMP SWITCH
- PROVIDES CURRENT TO 4-AMP FUSE IDENTIFIED AS PANEL LIGHTS
- FEED FROM I-1 TERMINAL OF IGNITION SWITCH
- PROVIDES CURRENT TO 4-AMP FUSE IDENTIFIED AS GAUGES



REAR VIEW

- FEED FROM A. TERMINAL OF IGNITION SWITCH
- PROVIDES CURRENT TO 2 20-AMP FUSES IDENTIFIED AS TURN SIG. ACCESSORY, AND HEATER AIR COND. RESPECTIVELY

70378

Fuse Application—Matador

Fuse (Amps)	Protects Circuit	
20	Turn Signal Lamps Turn Signal Indicators Radio Feed Back-Up Lamps	Cruise Command Windshield Washer T. C. S. Solenoid
20	Heater-A/C Blower Motor Heater-A/C Clutch	
4	Gauges Alternator Lamp Oil Pressure Lamp Brake Failure Lamp	Seat Belt Warning Heated Rear Window Relay
4	Auto. Trans. Light, Floor, & Column Radio Illumination Heater & A/C Control Lamp Clock Lamp Cluster Illumination Lights/Wiper Switch Lamp Ash Receiver Lamp	
14	Tail Lights Parking Lamps License Lamps	Side Marker Lamps Key and Headlight Warning Buzzer
20	Stop Lamps Hazard Flasher	Hazard Flasher Indicators
9	Dome Lamps Rear Shelf Lamp Cargo Lamp Courtesy Lamp	Glove Box Lamp Trunk Lamp Clock Feed

60428

CIRCUIT BREAKERS**Pacer**

Headlamps are protected by a 20-ampere circuit breaker located in the headlamp switch.

The windshield wiper motor is protected by a 8.25-ampere circuit breaker separate from the control switch and by a fusible link between the circuit breaker and the A terminal of the ignition switch. The circuit breaker is attached to the left side of the brake pedal support bracket. Refer to Chapter 3T for service procedures.

The liftgate wiper motor is protected by a 4.5-ampere circuit breaker separate from the control switch. It is attached to the left side of the brake support bracket. Refer to Chapter 3T for service procedures.

Circuit Breakers—Pacer

Circuit Protected	Rated Amps	Location
Headlamps	20	In Switch
Windshield Wipers	8.25	Inst. Panel
Liftgate Wiper	4.5	Inst. Panel

50481

Gremlin-Concord-AMX

Headlamps are protected by a 20-ampere circuit breaker located in the headlamp switch.

The windshield wiper motor is protected by a circuit breaker located in the switch and by a fusible link between the switch and the A terminal of the ignition switch. Refer to Chapter 3T for service procedures.

Circuit Breakers—Gremlin-Concord-AMX

Circuit Protected	Rated Amps	Location
Headlamps	20	In Switch
Windshield Wipers	8	In Switch

70379

Matador

Headlamps are protected by a 20-ampere circuit breaker located in the headlamp switch.

The windshield wiper motor is protected by a circuit breaker located in the switch and by a fusible link between the circuit breaker and the A terminal of the ignition switch.

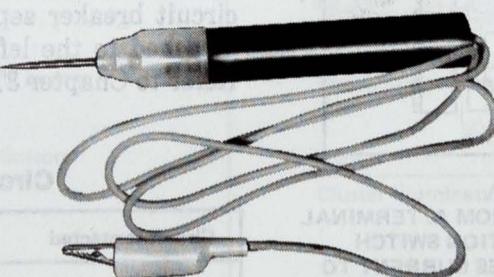
SPECIFICATIONS**Torque Specifications**

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	METRIC (N·m)	USA (in-lbs.)		
	Service Set-To Torque	Service In-Use Recheck Torque	Service Set-To Torque	Service In-Use Recheck Torque
Wiring Harness Dash Disconnect Bolt	7	3 min.	60	25 min.
Wiring Harness to Ground Wire	7	6-9	65	55-80

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

70377B

Special Tools

J-21008
CONTINUITY LIGHT

Front	Common Allision

42271B

Electric side window circuits are protected by a 20-ampere circuit breaker located to the left of the steering column on the lower lip of the instrument panel and by a fusible link between the circuit breaker and the 1-3 terminal of the ignition switch.

The tailgate window circuits are protected by two 20-ampere circuit breakers located to the left of the steering column on the lower lip of the instrument panel.

One circuit breaker is used in the instrument panel switch circuit and the other is used in the tailgate key operated switch circuit.

Circuit Breakers—Matador

Circuit Protected	Rated Amps	Location
Headlamps	20	In Switch
Windshield Wipers	8	In Switch
Electric Windows (Side)	20	Inst. Panel
Tailgate, Front Switch	20	Inst. Panel
Tailgate, Rear Switch	20	Inst. Panel

43146

HORN SYSTEMS

3S

SECTION INDEX

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Horn Adjustment	3S-2

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Horn System Diagnosis and Repair	3S-1
Specifications	3S-2

GENERAL

The horn circuit includes horn(s), horn relay, battery, steering column wiring harness, horn ring, and the body sheet metal.

A cadmium plated ground screw is used to attach the horn(s) to the body. **Do not** substitute other types of ground screws as they may become corroded and cause a loss of ground.

To reduce the current flow through the horn ring contacts, a relay is used between the battery and horn(s). The horn relay consists of an electromagnet and a set of contacts arranged so that when the magnet is energized an armature is attracted and the contacts close. A spring keeps the contacts open when the unit is at rest. The horn ring contacts carry only relay current, while the relay opens and closes the circuit between the horn(s) and battery (fig. 3S-1).

A fusible link is incorporated in the main wiring harness to furnish protection against major harness damage.

When a grounded circuit or overload occurs in the horn circuit, damage will be limited to the fusible link.

HORN SYSTEM DIAGNOSIS AND REPAIR

In case of horn system failure, proceed as follows:

(1) Using a test light or voltmeter, check pink (power) lead to relay before individual components are tested or replaced.

(2) A zero reading indicates fusible link is open and cause of failure must be determined and repaired prior to installing a replacement fusible link.

NOTE: Service replacement fusible links are supplied with a terminal connector on one end.

(3) Inspect wiring between horn(s), relay and battery for loose connections, faulty insulation, corroded terminals, or improper ground connection at horn(s) base.

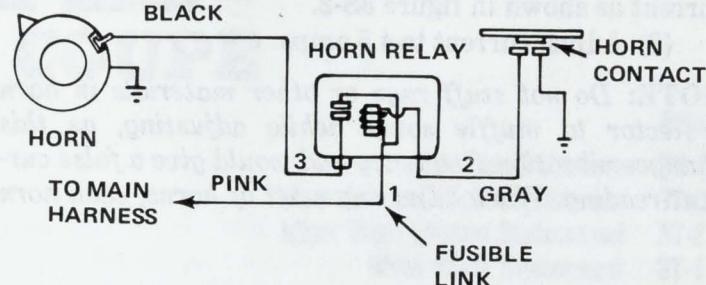
a costly returning procedure had very little of (3) which will have the experience needed to follow factory and other repair parts as no model is operable

HORN SYSTEMS

SECTION INDEX

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A42800

Fig. 3S-1 Horn Circuit Schematic

(4) If horn(s) does not operate when ring or button is depressed, ground number 2 terminal (fig. 3S-1) of horn relay with a jumper lead.

(5) If horn(s) operates, this indicates proper operation of horn(s) and relay.

(6) Inspect horn ring switch and wire from switch to relay carefully for source of trouble.

CAUTION: Do not ground pink (power) lead.

(7) If horn(s) does not operate, connect a jumper lead from horn relay terminals 1 to 3.

(8) If horn(s) operates, a faulty horn relay is indicated.

(9) If horn still does not operate, check to be sure that battery voltage is reaching horn relay terminal number 1 and that wiring and connections between horn relay terminal number 3 and horn(s) are intact.

(10) Connect a jumper lead from horn base to car chassis or engine and repeat above tests.

(11) If horn(s) now operates, remove attaching screw and horn mounting bracket, clean matting surfaces.

(12) Install horn mounting bracket and attaching screw, tightened screw to 15 foot-pounds (20.4 Nm) torque.

(13) If horn(s) still does not operate, horn(s) is inoperative and must be replaced.

(14) To check for bad component grounds, place a voltmeter between component and ground. If a sizable voltage is shown on the meter, repair the poor ground connection.

NOTE: Continuous horn operation is usually caused by improper ground in horn ring or button wiring.

HORN ADJUSTMENT

On some models, it is necessary to remove the horn(s) to gain access to adjusting screw.

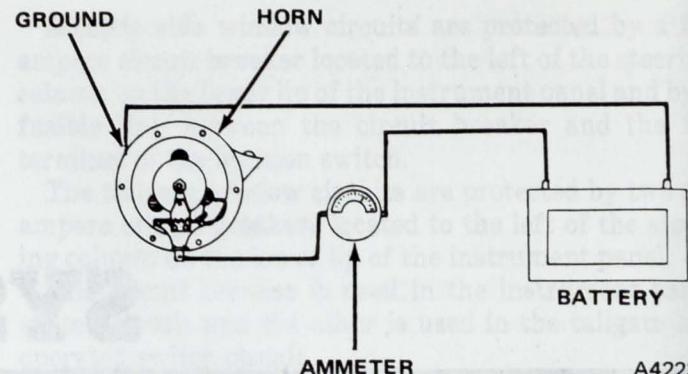
Adjust current by turning adjusting screw counter-clockwise to decrease current until specified current is reached. Current adjustment is very sensitive. Therefore, be careful not to turn horn adjustment screw too far. Turn only 1/10 of a turn at one time.

(1) Check for normal battery voltage (about 12.6 volts).

(2) Connect ammeter and horn to battery and read current as shown in figure 3S-2.

(3) Adjust current to 4.5 amps.

NOTE: Do not stuff rags or other materials in horn protector to muffle sound while adjusting, as this changes vibration frequency and would give a false current reading. When adjusting a set of horns, each horn



A42233

Fig. 3S-2 Connection for Horn Adjustment

should be connected and adjusted separately, then check for tone by operating as a pair.

SPECIFICATIONS

Electrical Specifications

Item	Current Flow
Horn	4.5 Amps

70446

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

Service Set-To Torque
Horn Bracket Screw

All Torque values given in newton-meters and foot-pounds with dry fits unless otherwise specified.

Metric (N·m)		USA (ft.lbs.)	
Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
20 min.	20-48	15 min.	15-35

70445

WINDSHIELD / LIFTGATE WIPERS

3T

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WINDSHIELD WIPERS— PACER — MATADOR COUPE

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	Wiper Arm and Blade Replacement
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	Wiper Blade Element Replacement
	3T-2
	Wiper Blade Replacement
	3T-1
	Wiper Motor
	3T-13

GENERAL

The wiper motor is a two-speed, permanent magnet, depressed-park type with the brush end plate at one end of the housing and a gear housing at the other end. The park switch is located in the gear cover and the park mechanism is located in the output arm.

The Pacer wiper motor is fastened to a mounting plate which in turn is attached to the engine side of the dash panel assembly on the right. The wiper motor circuit is protected by a separate circuit breaker attached to the left side of the brake pedal support.

The Matador Coupe wiper motor is mounted to the dash panel assembly under the hood. The wiper motor circuit is protected by a circuit breaker located in the wiper control switch.

The Matador Coupe wiper motor is mounted to the dash panel assembly under the hood. The wiper motor circuit is protected by a circuit breaker located in the wiper control switch.

WIPER BLADE REPLACEMENT

(1) To remove pin-type blade, insert an appropriate tool into spring release opening of blade saddle, depress spring clip and pull blade from arm (fig. 3T-1).

(2) To install, push blade saddle on pin so that spring clip engages pin. Be sure blade is securely attached to arm.

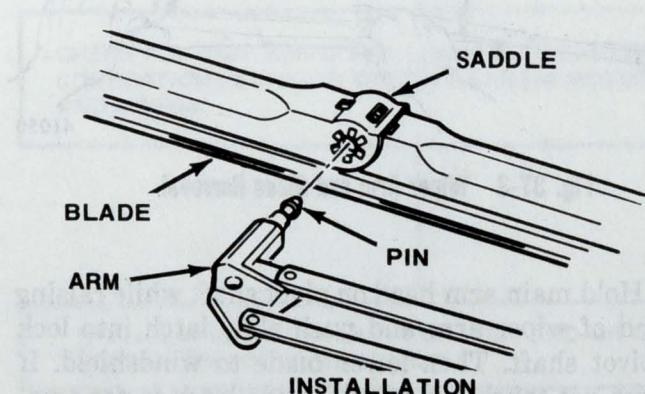
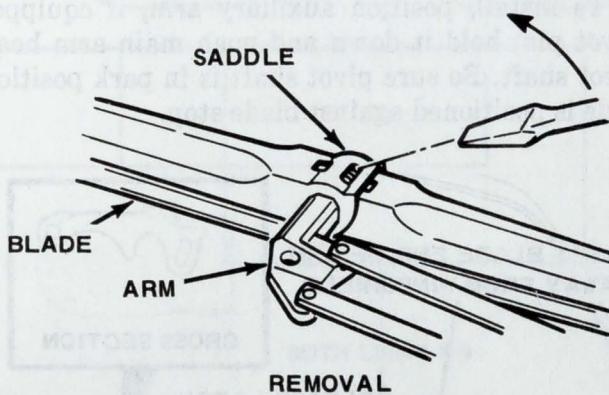


Fig. 3T-1 Wiper Blade Removal

WIPER BLADE ELEMENT REPLACEMENT

(1) Squeeze latch lock release and pull element out of lever jaws (fig. 3T-2).

(2) To install, insert replacement element through each of the lever jaws. Be sure element is engaged in all lever jaws.

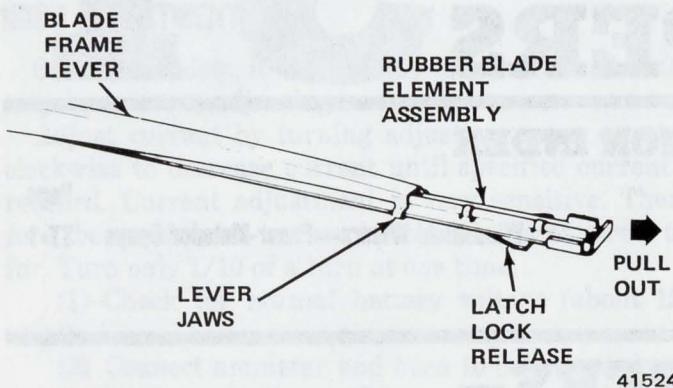


Fig. 3T-2 Wiper Blade Element Replacement

WIPER ARM AND BLADE REPLACEMENT

(1) Raise blade end of arm from windshield and move slide latch (fig. 3T-3) away from pivot shaft.

(2) Disconnect washer hose from connector. Disengage auxiliary arm (driver's side only) from pivot pin and remove wiper arm from pivot shaft.

(3) To install, position auxiliary arm, if equipped over pivot pin; hold it down and push main arm head over pivot shaft. Be sure pivot shaft is in park position and blade is positioned against blade stop.

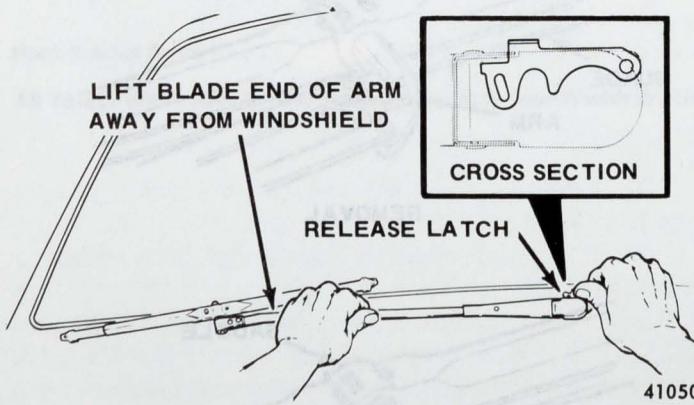


Fig. 3T-3 Wiper Arm and Blade Removal

(4) Hold main arm head on pivot shaft while raising blade end of wiper arm and push slide latch into lock under pivot shaft. Then lower blade to windshield. If blade does not touch windshield, slide latch is not completely in place. Attach washer hose to connector.

Pivot Shaft Body and Link Replacement—Pacer

(1) Remove wiper arms and blades.

(2) Remove screws attaching right and left pivot shaft bodies to cowl using Torx Bit Tool J-25359-02.

(3) Disconnect linkage drive arm from motor output arm crankpin by removing retaining clip.

(4) Remove pivot shaft body assembly.

(5) Position pivot shaft body assembly on car.

(6) Install attaching screws and tighten to 90 inch-pounds (10.2 Nm) torque, using Torx Bit Tool J-25359-02.

(7) Connect linkage drive arm to motor output arm crank pin and install retaining clip. Check clip for positive retention.

Pivot Shaft Body and Link Replacement—Matador Coupe

(1) Remove wiper arms and blades.

(2) Remove cowl screen for access through cowl opening.

(3) Remove screws attaching right and left pivot shaft bodies to cowl using Torx Bit Tool J-25359-02.

(4) Disconnect linkage drive arm from motor output arm crankpin by removing retaining clip.

(5) Remove pivot shaft body assembly through cowl opening.

(6) When installing pivot shaft body attaching screws, tighten to 90 inch-pounds (10.2 Nm) torque. When installing linkage retaining clips, be sure to check for positive retention.

DIAGNOSIS AND CIRCUITRY

This diagnosis and circuitry is a guide to troubleshooting the depressed park windshield wiper system used on Pacer and Matador Coupe and consists of two parts: Diagnosis Charts and Circuitry Illustrations.

CONTROL SWITCH**Pacer****Removal**

(1) Remove knob from switch by releasing tension on clip using small screwdriver.

(2) Remove bezel from instrument cluster by pulling toward rear of car.

(3) Remove four screws attaching headlamp switch overlay. Pull toward rear of car to gain access to rear of switch.

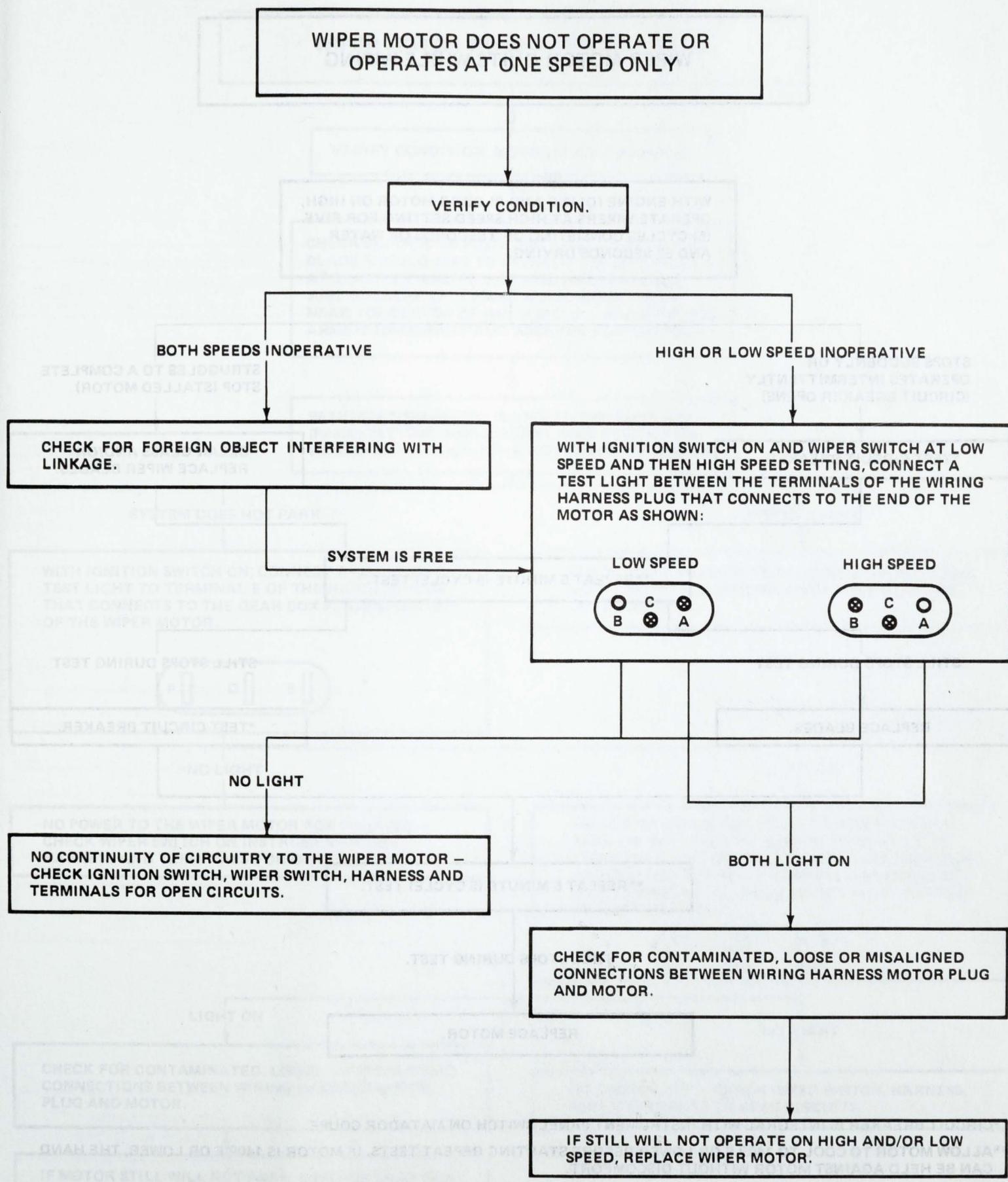
(4) Remove connector from rear of switch.

(5) Remove two screws attaching switch to instrument panel.

Installation

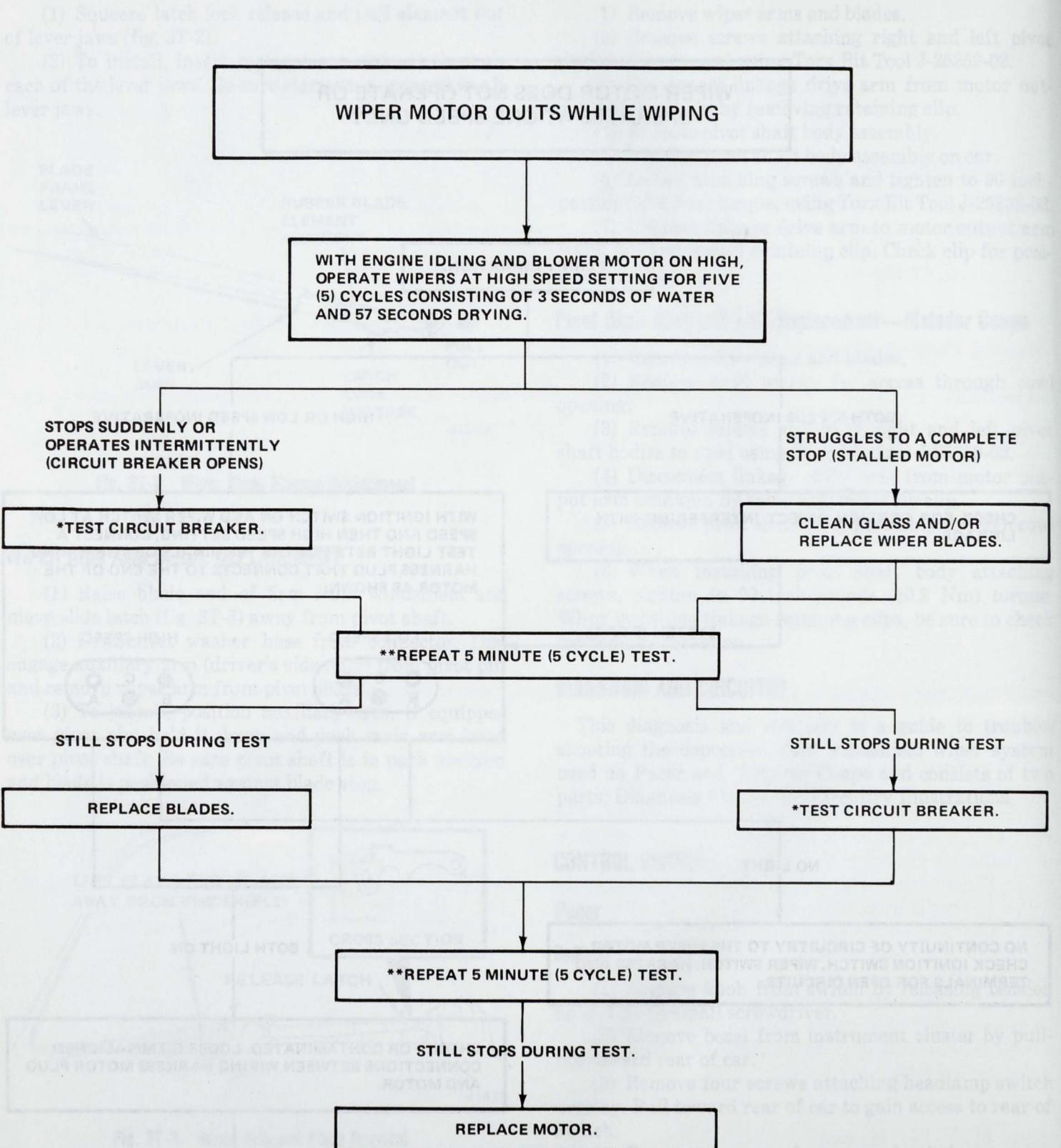
(1) Install switch to rear of instrument panel and secure with attaching screws.

Service Diagnosis



WIPER BLADE ELEMENT REPLACEMENT

Service Diagnosis (Continued)



*CIRCUIT BREAKER IS INTEGRAL WITH INSTRUMENT PANEL SWITCH ON MATADOR COUPE.

**ALLOW MOTOR TO COOL TO 140° F OR LOWER BEFORE STARTING REPEAT TESTS. IF MOTOR IS 140° F OR LOWER, THE HAND CAN BE HELD AGAINST MOTOR WITHOUT DISCOMFORT.

Service Diagnosis (Continued)

WIPER MOTOR RUNS BUT WON'T PARK

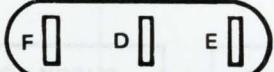
VERIFY CONDITION. MOTOR MUST RUN IN LO.

CHECK BLADE ARM POSITIONS FIRST – LEFT HAND BLADE SHOULD WIPE TO WITHIN 4" OF LEFT PILLAR AT BLADE TIP AND RIGHT HAND BLADE SHOULD JUST OVERLAP LEFT HAND BLADE WIPED AREA NEAR TOP CENTER OF WINDSHIELD – ADJUST BLADE ARMS IF NECESSARY AND RECHECK FOR PARKING.

WITH IGNITION SWITCH ON, WIPER SWITCH IN OFF (PARK) SETTING, AND WIPER BLADES STOPPED ON WINDSHIELD, GROUND THE WIPER MOTOR HOUSING.

SYSTEM DOES NOT PARK

WITH IGNITION SWITCH ON, CONNECT A GROUNDED TEST LIGHT TO TERMINAL E OF THE HARNESS PLUG THAT CONNECTS TO THE GEAR BOX PLASTIC COVER OF THE WIPER MOTOR.



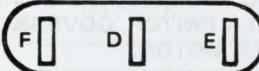
NO LIGHT

NO POWER TO THE WIPER MOTOR FOR PARKING – CHECK WIPER SWITCH ON INSTRUMENT PANEL, HARNESS AND TERMINALS FOR OPEN CIRCUITS.

CHECK FOR BROKEN WIPER MOTOR GROUND STRAP, LOOSE MOUNTING SCREWS, AND LOOSE GEAR BOX COVER SCREWS.

LIGHT ON

WITH IGNITION SWITCH ON AND WIPER SWITCH IN PARK OR OFF POSITION, JUMPER TERMINAL E TO TERMINAL F AND CONNECT A TEST LIGHT BETWEEN GROUND AND TERMINAL D OF THE HARNESS PLUG THAT CONNECTS TO THE GEAR BOX PLASTIC COVER OF THE WIPER MOTOR.



LIGHT ON

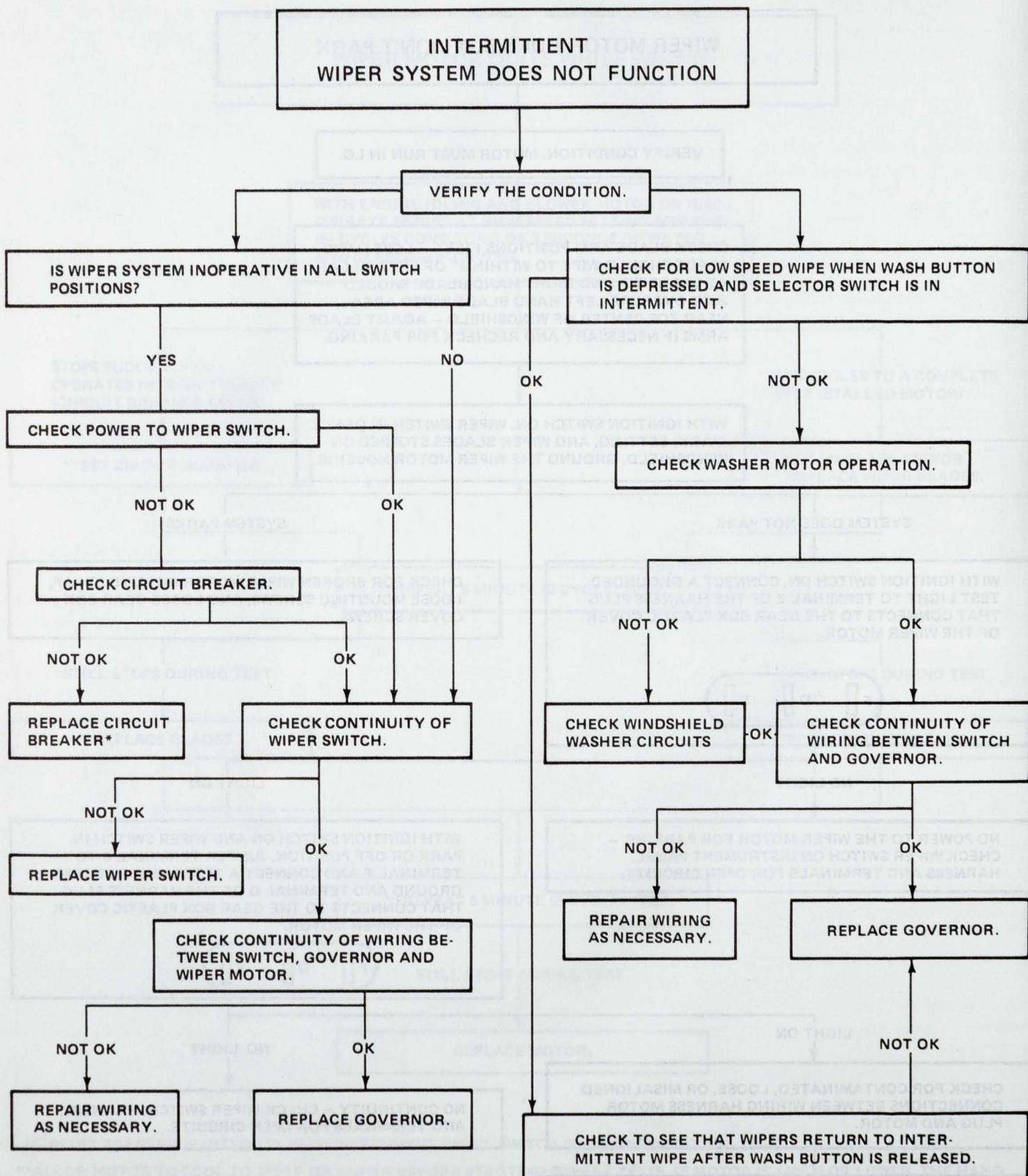
CHECK FOR CONTAMINATED, LOOSE, OR MISALIGNED CONNECTIONS BETWEEN WIRING HARNESS MOTOR PLUG AND MOTOR.

NO LIGHT

NO CONTINUITY – CHECK WIPER SWITCH, HARNESS, AND TERMINALS FOR OPEN CIRCUITS.

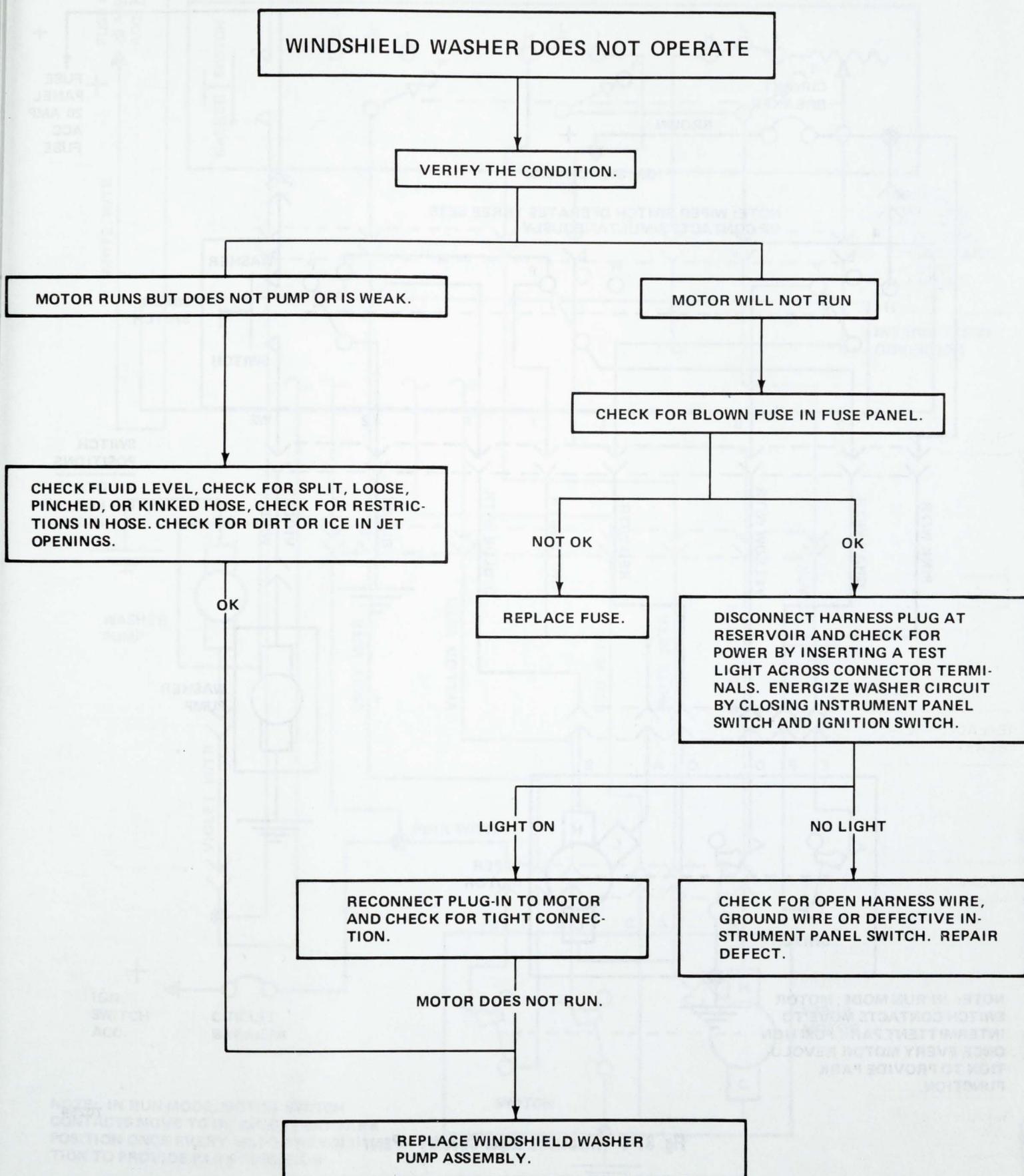
IF MOTOR STILL WILL NOT PARK, REPLACE GEAR BOX PLASTIC COVER AND MOTOR SWITCH.

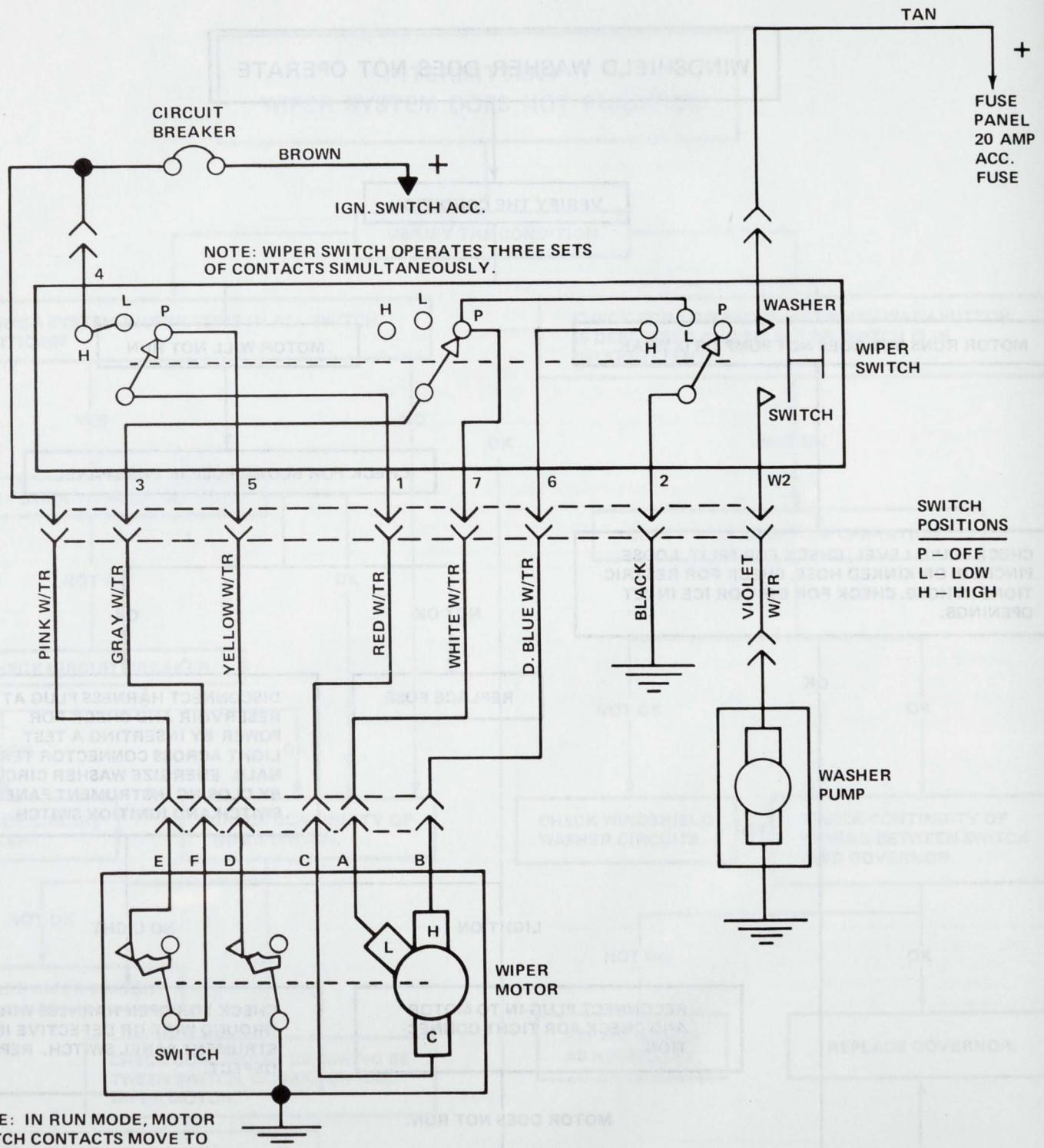
Service Diagnosis (Continued)



*CIRCUIT BREAKER IS INTEGRAL WITH INSTRUMENT PANEL SWITCH ON MATADOR COUPE.

Service Diagnosis (Continued)





NOTE: IN RUN MODE, MOTOR SWITCH CONTACTS MOVE TO INTERMITTENT PARK POSITION ONCE EVERY MOTOR REVOLUTION TO PROVIDE PARK FUNCTION.

70254

Fig. 3T-4 Windshield Wiper Circuitry—Pacer

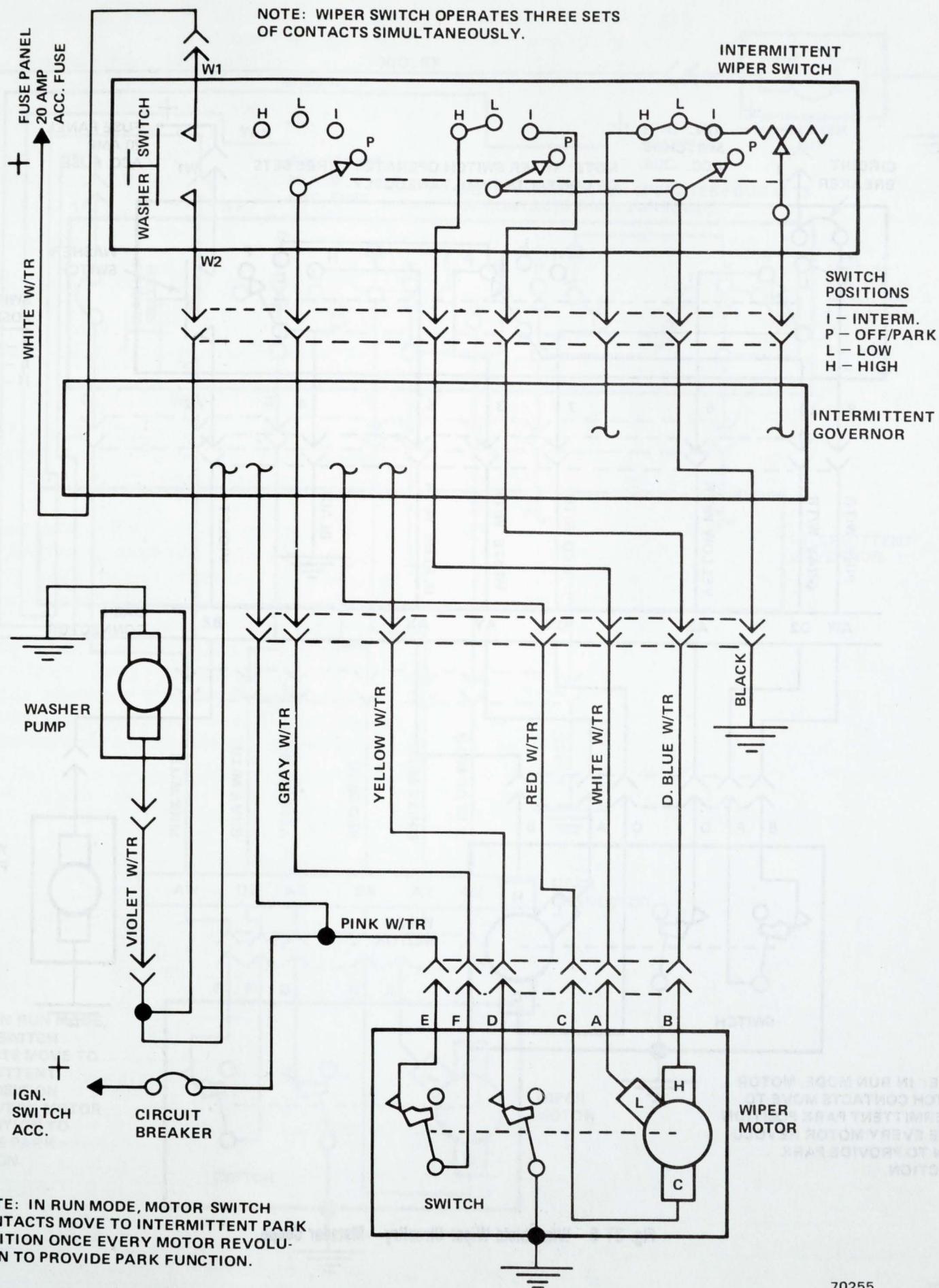


Fig. 3T-5 Windshield Wiper with Intermittent Wiper Governor Circuitry—Pacer

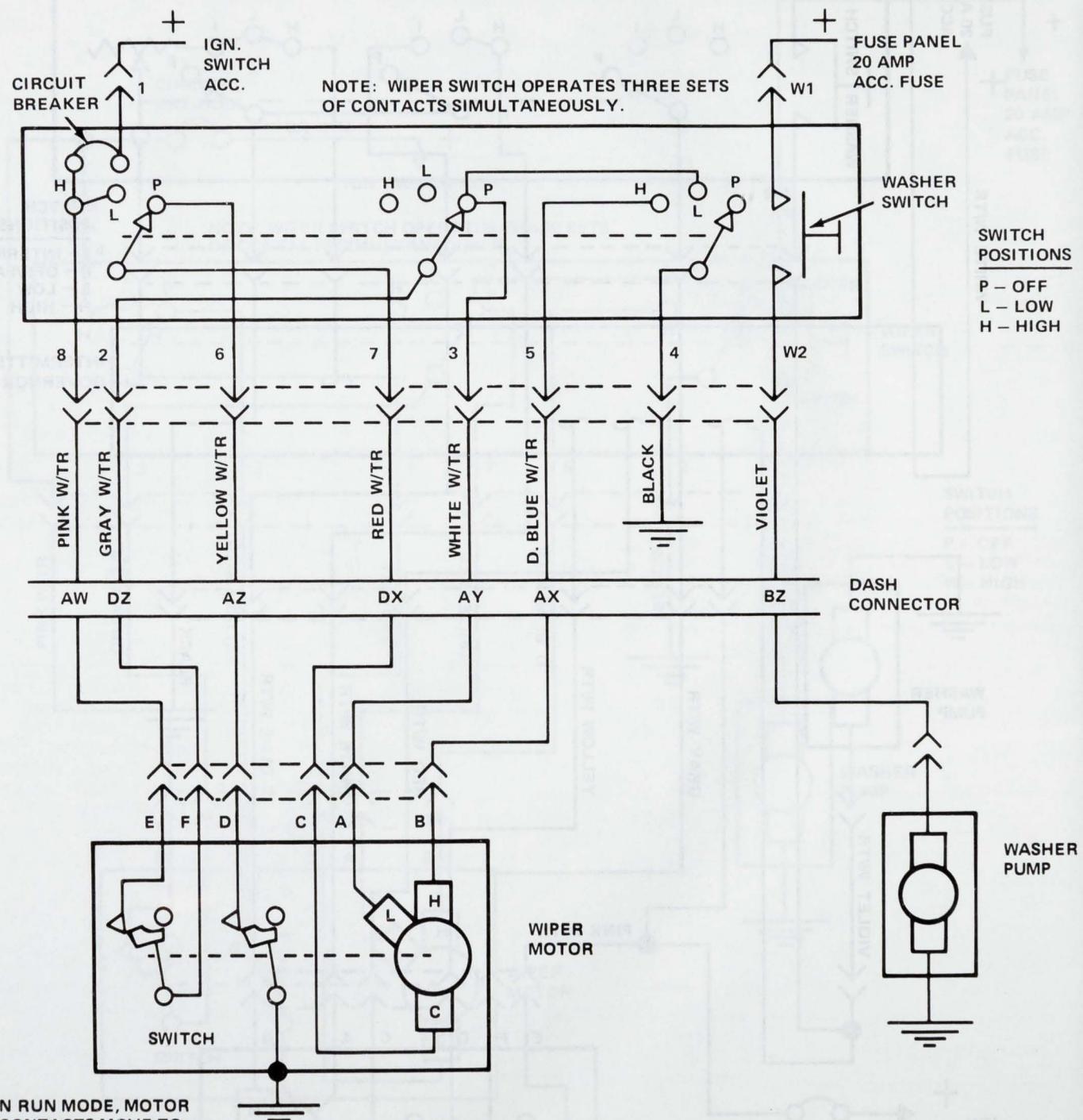


Fig. 3T-6 Windshield Wiper Circuitry—Matador Coupe

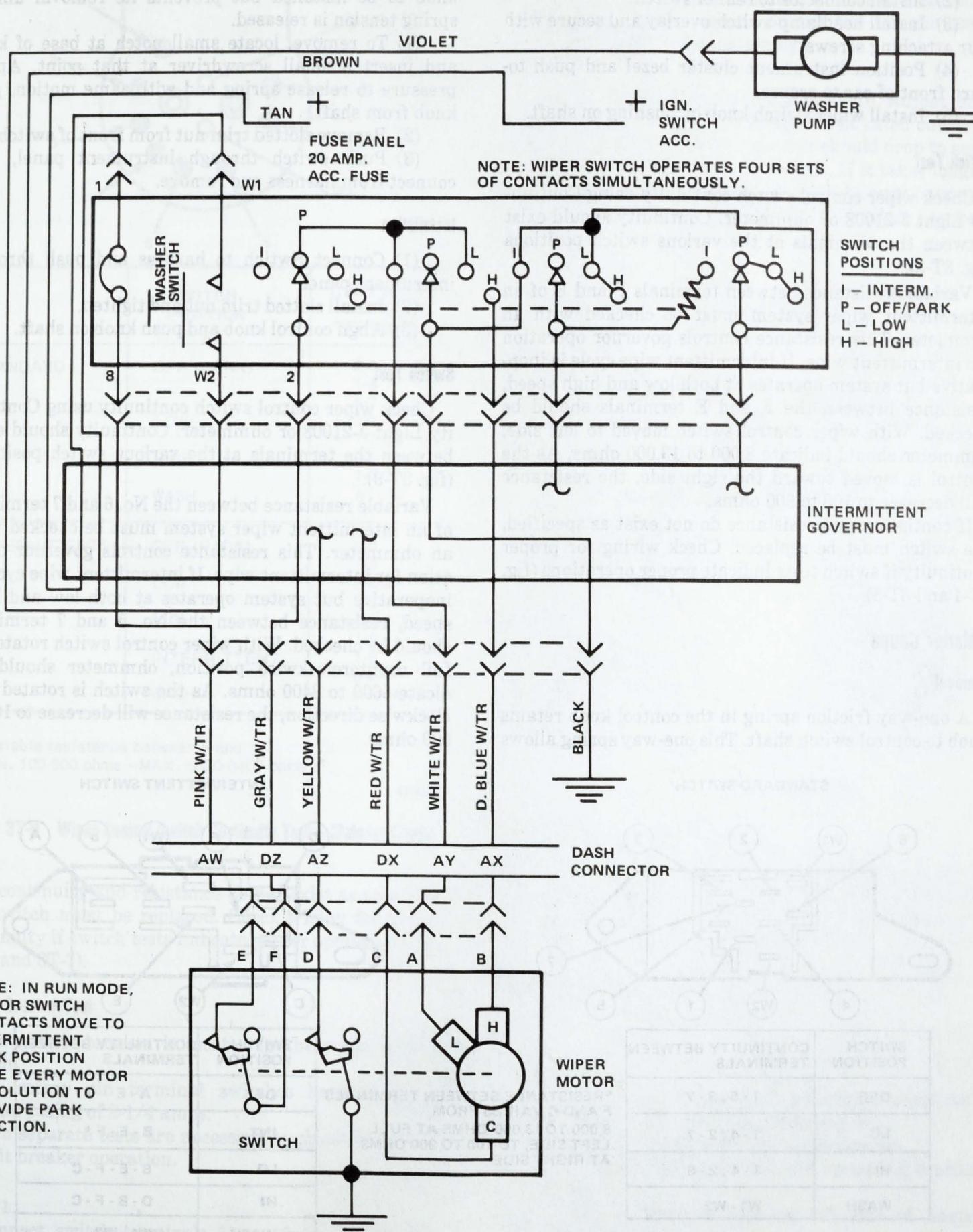


Fig. 3T-7 Windshield Wiper with Intermittent Wiper Governor Circuitry—Matador Coupe

- (2) Install connector to rear of switch.
- (3) Install headlamp switch overlay and secure with four attaching screws.
- (4) Position instrument cluster bezel and push toward front of car to secure.
- (5) Install wiper switch knob by pushing on shaft.

Switch Test

Check wiper control switch continuity using Continuity Light J-21008 or ohmmeter. Continuity should exist between the terminals at the various switch positions (fig. 3T-8).

Variable resistance between terminals F and E of an intermittent wiper system must be checked with an ohmmeter. This resistance controls governor operation for intermittent wipe. If intermittent wipe cycle is inoperative but system operates at both low and high speed, resistance between the F and E terminals should be checked. With wiper control switch moved to left side, ohmmeter should indicate 8,000 to 13,000 ohms. As the control is moved toward the right side, the resistance will decrease to 100 to 900 ohms.

If continuity and resistance do not exist as specified, the switch must be replaced. Check wiring for proper continuity if switch tests indicate proper operations (fig. 3T-4 and 3T-5).

Matador Coupe

Removal

A one-way friction spring in the control knob retains knob to control switch shaft. This one-way spring allows

knob to be installed but prevents its removal unless spring tension is released.

- (1) To remove, locate small notch at base of knob and insert a small screwdriver at that point. Apply pressure to release spring and with same motion, pull knob from shaft.
- (2) Remove slotted trim nut from front of switch.
- (3) Push switch through instrument panel, disconnect from harness and remove.

Installation

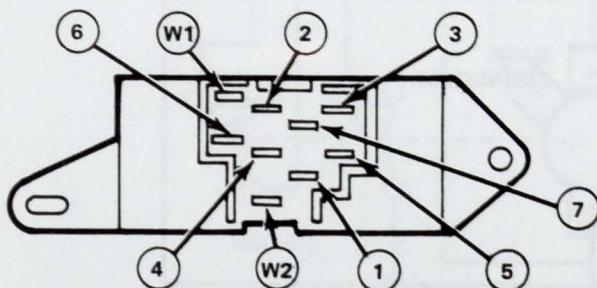
- (1) Connect Switch to harness and push through instrument panel.
- (2) Install slotted trim nut and tighten.
- (3) Align control knob and push knob on shaft.

Switch Test

Check wiper control switch continuity using Continuity Light J-21008 or ohmmeter. Continuity should exist between the terminals at the various switch positions (fig. 3T-9).

Variable resistance between the No. 6 and 7 terminals of an intermittent wiper system must be checked with an ohmmeter. This resistance controls governor operation for intermittent wipe. If intermittent wipe cycle is inoperative but system operates at both low and high speed, resistance between the No. 6 and 7 terminals should be checked. With wiper control switch rotated to full counterclockwise position, ohmmeter should indicate 5600 to 8400 ohms. As the switch is rotated in a clockwise direction, the resistance will decrease to 100 to 900 ohms.

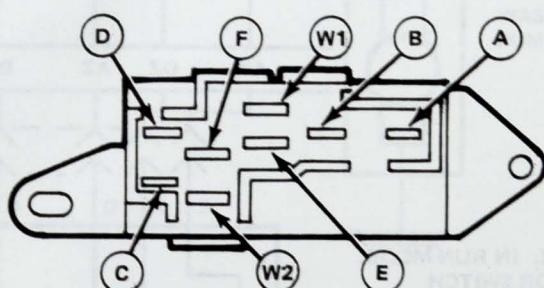
STANDARD SWITCH



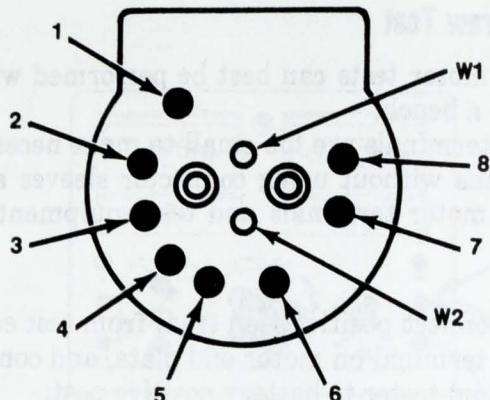
SWITCH POSITION	CONTINUITY BETWEEN TERMINALS
OFF	1 - 5, 3 - 7
LO	1 - 4, 2 - 7
HI	1 - 4, 2 - 6
WASH	W1 - W2

*RESISTANCE BETWEEN TERMINALS F AND C VARIES FROM
8,000 TO 13,000 OHMS AT FULL
LEFT SIDE, TO 100 TO 900 OHMS
AT RIGHT SIDE

INTERMITTENT SWITCH



SWITCH POSITION	CONTINUITY BETWEEN TERMINALS
OFF	A - E
INT.	B - E - F *
LO	B - E - F - C
HI	D - B - F - C
WASH	W1 - W2



	SWITCH POSITION	CONTINUITY BETWEEN TERMINALS
STANDARD	OFF (PARK)	2-3 1-8 6-7 3-4 1-7-8 4-5 1-7-8 W1 - W2
	LOW	
	HIGH	
	WASH	
INTERMITTENT*	OFF (PARK)	2-3 1-8 3-4-6-7 1-8 4-5-6-7 1-8 1-8 3-4-6 W1 - W2
	LOW	
	HIGH	
	INTERMITTENT	
	WASH	

*Variable resistance between 6 and 7 -
MIN. 100-900 ohms - MAX. 5600-8400 ohms.

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Fig. 3T-9 Wiper Control Switch Continuity Test—Matador Coupe

If continuity and resistance do not exist as specified, the switch must be replaced. Check wiring for proper continuity if switch tests indicate proper operations (fig. 3T-6 and 3T-7).

Circuit Breaker Test

The circuit breaker is located in the wiper control switch.

All rotary pin terminal switches have a circuit breaker rating of 8-1/4 amps.

Two separate tests are necessary to check for correct circuit breaker operation.

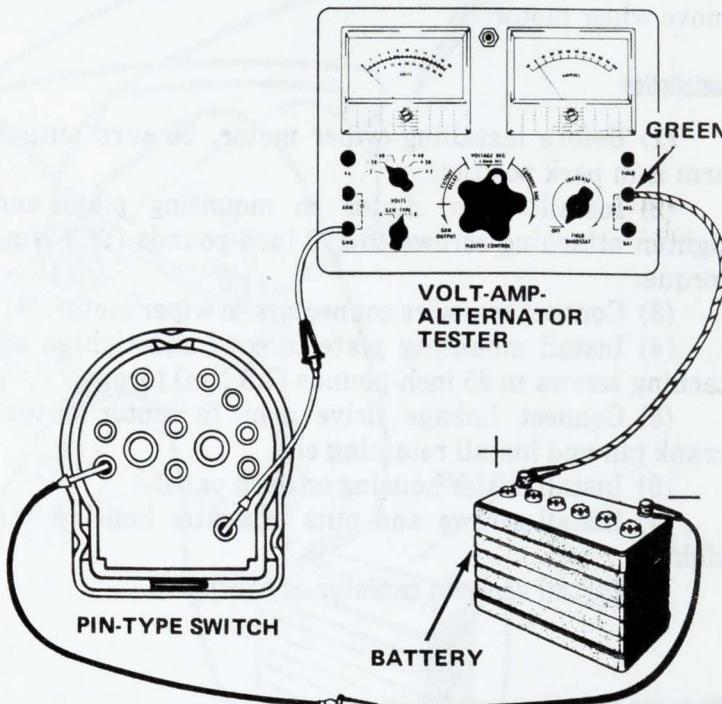
Test 1

Connect switch terminals 1 and 8 to the tester as shown in figure 3T-10. Adjust current draw until it equals the circuit breaker low limit rating. Leave switch connected to the tester for 10 minutes. The current read-

ing on the ammeter should remain at the rated current. If the circuit breaker opens during the ten minutes, replace the wiper switch assembly.

Test 2

Connect switch as shown in figure 3T-10. Adjust current draw until it is twice the high limit rated current. The current reading on the ammeter should drop to zero within 30 seconds for pin-type switch. If it takes longer than 30 seconds for the circuit breaker to open (current reading drops to zero), replace the wiper switch assembly.



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Fig. 3T-10 Circuit Breaker Test

INTERMITTENT GOVERNOR TEST

If intermittent operation is not satisfactory, check motor current draw, control switch, and connecting wires for continuity. If motor, switch, and wires are acceptable, replace intermittent governor.

WIPER MOTOR

Pacer

Removal

- (1) Disconnect linkage drive arm from motor output arm crankpin by removing retaining clip.
- (2) On cars equipped with air conditioning:
 - (a) Remove vacuum canister mounting bracket and canister.
 - (b) Remove two nuts on left side of heater housing.
 - (c) Remove one nut on right side of heater housing.
 - (d) Remove screw from heater housing support.

- (3) On cars not equipped with air conditioning:
 - (a) Remove two nuts and one screw on left side of heater housing.
 - (b) Remove one nut on right side of heater housing.
 - (c) Remove screw from heater housing support. Pull heater housing forward.
- (4) Remove wiper motor mounting plate attaching screws and remove wiper motor assembly from cowl.
- (5) Disconnect two wire connectors from wiper motor.
- (6) Remove wiper motor attaching screws and remove wiper motor.

Installation

- (1) Before installing wiper motor, be sure output arm is in park position.
- (2) Install wiper motor to mounting plate and tighten attaching screws to 100 inch-pounds (11.3 Nm) torque.
- (3) Connect two wire connectors to wiper motor.
- (4) Install mounting plate to cowl and tighten attaching screws to 65 inch-pounds (7.3 Nm) torque.
- (5) Connect linkage drive arm to motor output crank pin and install retaining clip.
- (6) Install heater housing on dash panel.
- (7) Install screws and nuts to heater housing and tighten.
- (8) Install vacuum canister, if equipped.

Matador Coupe

Replacement

- (1) Disconnect washer hoses from cowl screen nozzles.
- (2) Remove cowl screen.
- (3) Disconnect linkage drive arm from motor output arm crankpin by removing retaining clip inside cowl opening.
- (4) Disconnect two wire connectors from wiper motor.
- (5) Remove wiper motor attaching screws and remove wiper motor. If output arm catches on dash panel during removal, hand turn output arm clockwise so that it will clear opening in dash panel.
- (6) Before installing wiper motor, be sure output arm is in park position.
- (7) Position wiper motor in dash panel and install attaching screws. Tighten attaching screws to 100 inch-pounds torque.
- (8) Connect two wire connectors to wiper motor.
- (9) Connect linkage drive arm to motor output crank pin and install retaining clip.
- (10) Install cowl screen.
- (11) Connect washer hoses to cowl screen nozzles.

Current Draw Test

Wiper motor tests can best be performed with wiper motor on a bench.

Motor terminals are too small to make necessary test connections without using connector sleeves and wires between motor terminals and test equipment (fig. 3T-11).

- (1) Connect positive lead (red) from test equipment to center terminal on motor end plate, and connect lead (green) from tester to battery positive post.
- (2) Connect jumper wire from battery negative post to low speed terminal on motor end plate and read current draw.
- (3) Move jumper wire from low speed terminal to high speed terminal, and read high speed current draw.

NOTE: In steps (2) and (3) above, current draw should not exceed 3.5 amperes. If current draw exceeds 3.5 amperes, check output arm and windlatch for binding before replacing motor.

Park Test

After current draw test, leads should be disconnected from motor so that output arm stops approximately 90° past park position for this test.

Using connector sleeves and wires fabricated above, make electrical connections to wiper motor from a 12-volt battery (fig. 3T-11). With this hookup, output arm should move in the following cycle.

- (1) Rotate in normal direction for approximately 280° then reverse direction of rotation for approximately 10 to 15° and stop rotation when the crank pin is in final park position with current draw returning to zero.
- (2) If output arm rotates in reverse more than 15° or if motor stalls or jams while output arm is rotating in reverse, replace or repair motor.
- (3) Any deviation from above cycle, replace or repair motor.

WIPER MOTOR DISASSEMBLY AND ASSEMBLY

The wiper motor is serviced as a complete assembly and in kits of the major subassemblies. Removal and installation procedures are given here for each of the kits.

Cover and Switch

Remove the cover attaching screws to remove the assembly. Replace with the appropriate kit. Be sure to connect the ground strap under the cover screw. Use replacement screws supplied with the kit and tighten to 20 inch-pounds (2.3 Nm) torque.

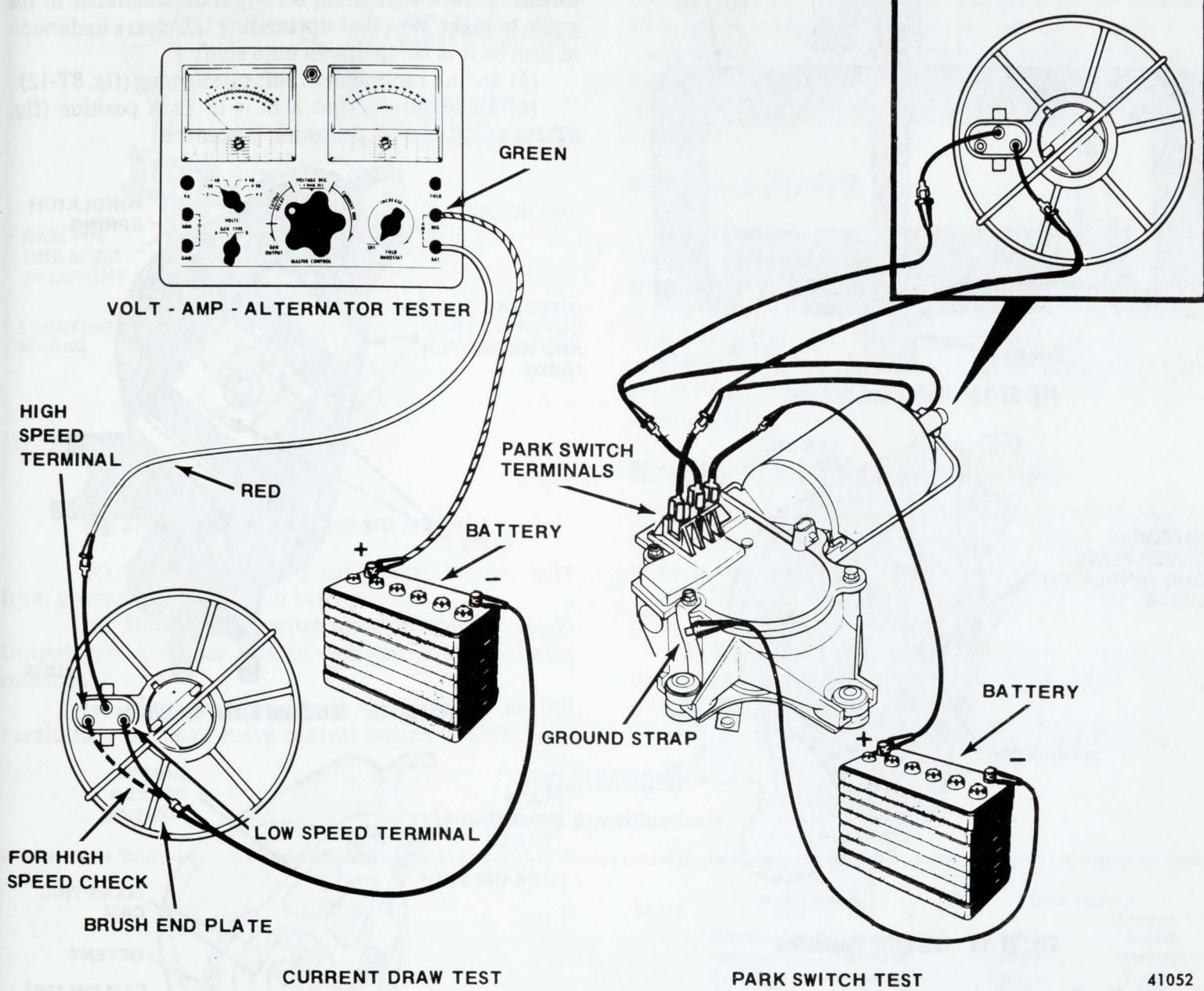


Fig. 3T-11 Wiper Motor Tests

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Brush End Plate

Mark original position of bale retainer and cover with paint and pry off bale with screwdriver. Remove end plate and plug. Replace with the appropriate kit.

When installing end plate, use a fine wire probe through the hub opening to position brushes on commutator. Rotate end plate to position key in notch and assemble plug. Install bale carefully with screwdriver to avoid overbending.

Output Arm and Windlatch

Removal

(1) Using a sharp pointed tool, puncture and pry off soft plastic plug from upper surface of arm (fig. 3T-12).

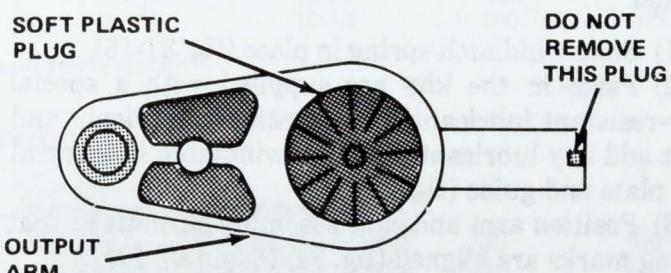


Fig. 3T-12 Output Arm with Plastic Plug Installed

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(2) Remove retaining bolt from shaft, being careful not to rotate shaft.

(3) Remove arm from shaft with suitable puller (fig. 3T-13). Do not attempt to drift arm from shaft.

(4) Note correct positioning of windlatch in its guide for proper assembly (fig. 3T-14). Lift plastic windlatch out of integral cover plate and guide.

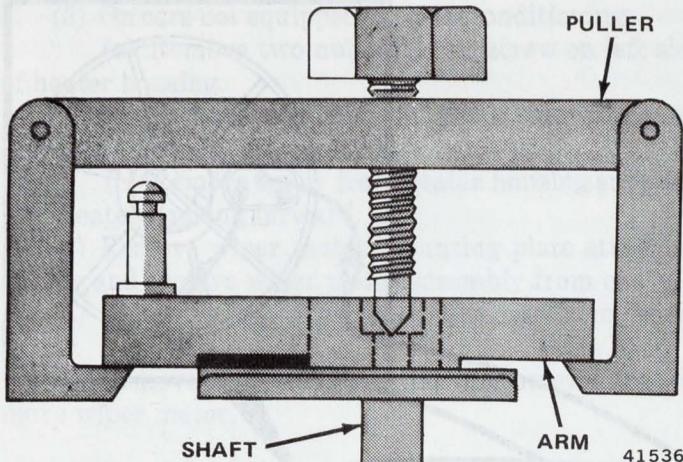


Fig. 3T-13 Output Arm Removal

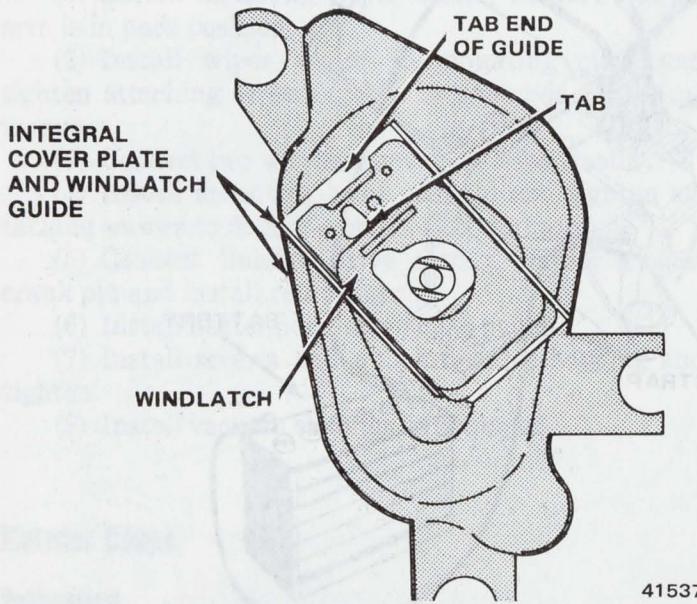


Fig. 3T-14 Windlatch Installation

(5) Unclip windlatch spring from guide and remove (fig. 3T-15).

Installation

- (1) Snap windlatch spring in place (fig. 3T-15).
- (2) Parts in the kits are supplied with a special water-resistant lubricant. Do not remove lubricant and do not add any lubricant. Position windlatch in integral cover plate and guide (fig. 3T-14).
- (3) Position arm and cam assembly on shaft so that locating marks are aligned (fig. 3T-16 and 3T-17).

NOTE: Service replacement arm comes with the cam pin engaged in the detent. When installed with the correct cam-to-shaft relationship (marks aligned), the arm will be 180° out of parked position. It will be returned to park position when you perform the final step of this procedure.

- (4) Draw arm and cam assembly onto output shaft with retaining screw, applying 10 foot-pounds (13.6 Nm)

torque. Before tightening screw, slide windlatch in its guide to make sure that upstanding tab clears underside of arm as it is being drawn onto shaft.

- (5) Install replacement soft plastic plug (fig. 3T-12).
- (6) Make sure output arm is in Park position (fig. 3T-16) as outlined in following procedure.

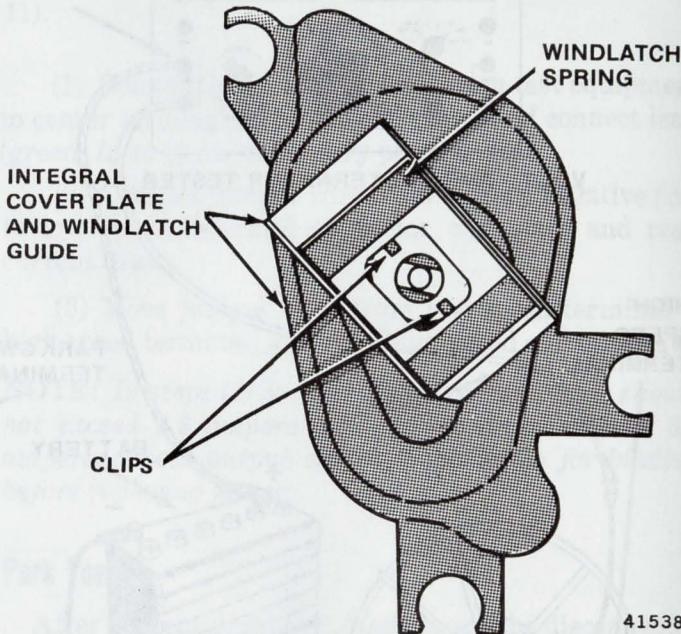


Fig. 3T-15 Windlatch Spring Installation

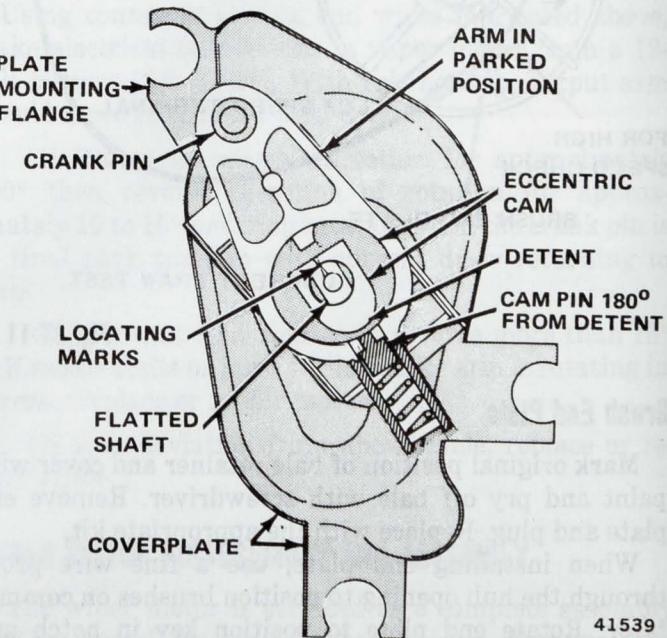


Fig. 3T-16 Output Arm In Parked Position

NOTE: Before attempting to install wiper motor in car, be sure output arm is in Park position (fig. 3T-16). If it is not in Park position, as in the case of the service replacement (fig. 3T-17), proceed as follows:

- (a) Place motor near feed wires at dash panel.
- (b) Temporarily connect motor to feed wires (two connectors).

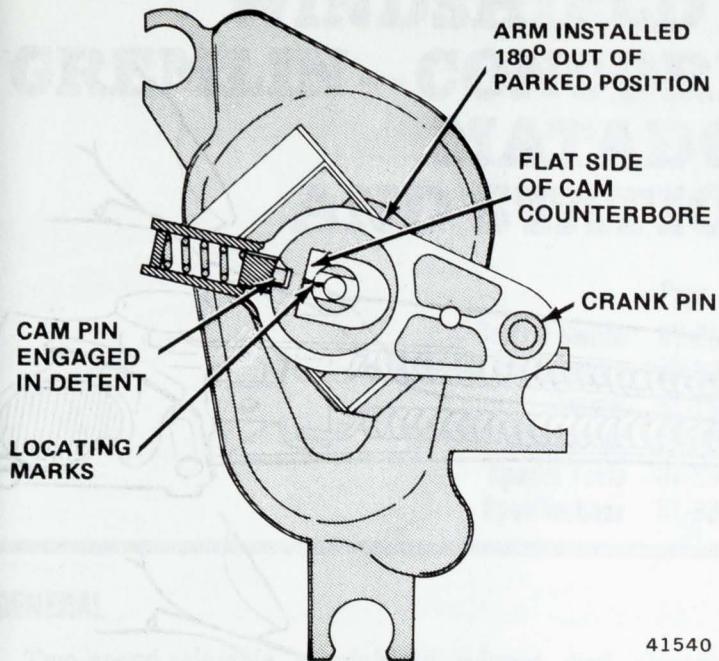


Fig. 3T-17 Service Replacement Arm Installation

(c) Ground motor by connecting jumper wire from ground strap to a good body ground.

(d) Move control switch in car to operate motor. Output arm and cam will move together in clockwise rotation.

(e) Allow arm and cam to move at least one full revolution, and then move control switch to OFF position.

This will cause motor output arm to proceed through following cycle: rotate in normal direction; reverse direction of rotation for approximately 10° to 15°; stop rotating while crank pin moves radially outward in a semi-circular motion; and stop in final park position (fig. 3T-16).

WINDSHIELD WASHERS

The windshield washers consist of a control switch integral with wiper control switch, reservoir and electric pump, hoses, nozzles, and attaching parts.

The electric pump is mounted in the bottom of the water reservoir. The pump is grounded to the car by a ground wire. The pump is energized by a feed wire from the W1 and W2 terminals on the control switch (fig. 3T-4 through 3T-7).

Windshield Washer Hose and Nozzle—Pacer

Windshield washer nozzles are attached to the wiper arms allowing the spray pattern to follow the wiper arms as they move over the windshield.

(1) Remove windshield wiper arm and blade (fig. 3T-3).

(2) Press top edge of nozzle over wiper arm edge and disengage nozzle tab and lower edge from arm.

(3) Remove washer hose.

(4) Refer to figure 3T-18 for pictorial procedures.

SPECIFICATIONS

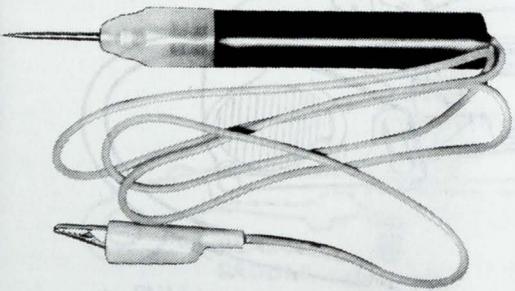
Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

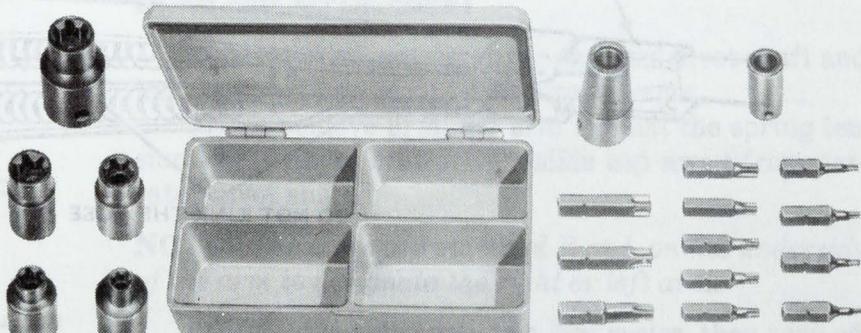
	Metric (N·m)	USA (in.lbs.)		
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
Wiper Motor to Motor MTG. Plate — Pacer	11	10-13	100	90-120
Wiper Motor MTG. Plate to Dash — Pacer	7	6-9	65	55-80
Windshield Wiper Pivot to Cowl	10	10-13	90	90-120
Wiper Motor to Cowl — Matador Coupe	11	10-13	100	90-120

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

Special Tools



J-21008
CONTINUITY LIGHT



J-25359-02
TORX BIT AND SOCKET SET

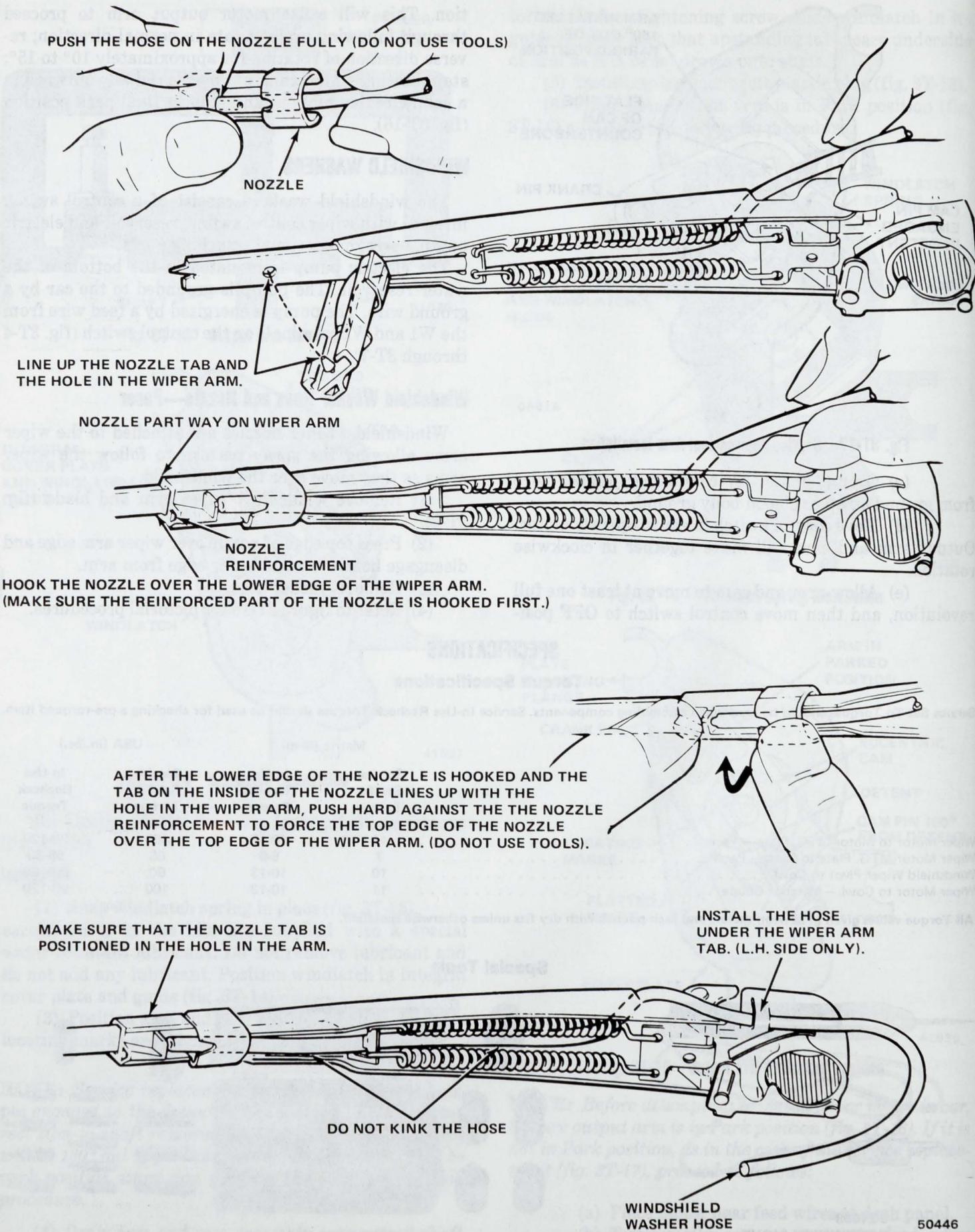


Fig. 3T-18 Windshield Washer Hose and Nozzle Assembly—Pacer

WINDSHIELD WIPERS – GREMLIN – CONCORD – AMX – MATADOR SEDAN AND STATION WAGON

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Wiper Blade Element Replacement	3T-19
Wiper Blade Replacement	3T-19
Wiper Motor	3T-30
Wiper Pivot Shaft Body and Link Assembly	3T-20

GENERAL

Two-speed electric windshield wipers and electric washers are standard equipment. An optional intermittent wiper system provides a pause between wipe cycles for use during conditions of very light precipitation.

The controls for the windshield wipers are mounted on the instrument panel to the left of the steering column.

The electric wipers are operated by turning the control knob to the right. For intermittent operation, turn knob to the left. Electric washers are actuated by depressing the wiper control knob.

The wiper arms are actuated by a link and pivot assembly attached to the wiper motor.

The wiper motor is mounted to an adapter plate mounted to dash panel.

The wiper arms move in a tandem-like action and park to the right side of the car.

CAUTION: The wiper arms and blades must not be moved manually from side to side or damage could result.

WIPER BLADE REPLACEMENT

(1) Press down on arm to unlatch top stud (fig. 3T-19).

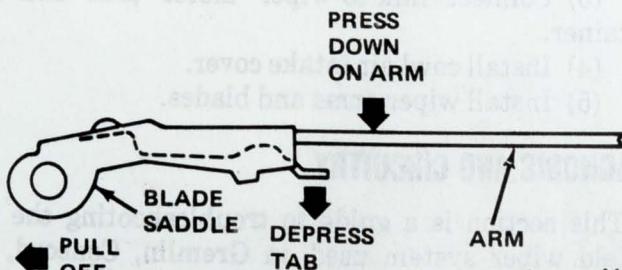


Fig. 3T-19 Wiper Blade Replacement

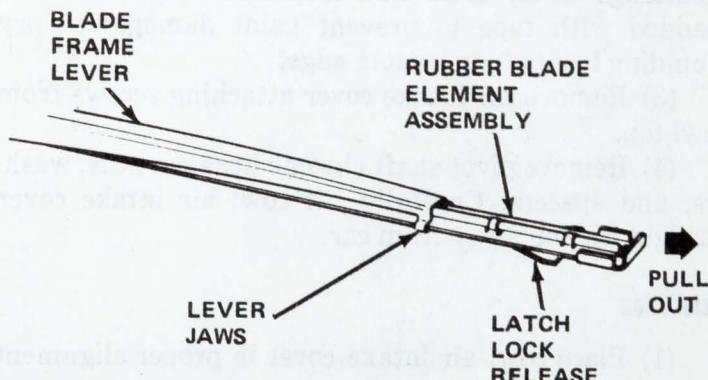
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- (2) Depress tab on saddle and pull blade from arm.
- (3) To install replacement blade assembly, slide blade saddle over end of wiper arm so that locking stud snaps into place. Be sure blade is securely attached to arm.

WIPER BLADE ELEMENT REPLACEMENT

(1) Squeeze latch lock release and pull element out of lever jaws (fig. 3T-20).

(2) To install, insert replacement element through each of the lever jaws. Be sure element is engaged in all lever jaws.



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Fig. 3T-20 Wiper Blade Element Replacement

WIPER ARM REPLACEMENT

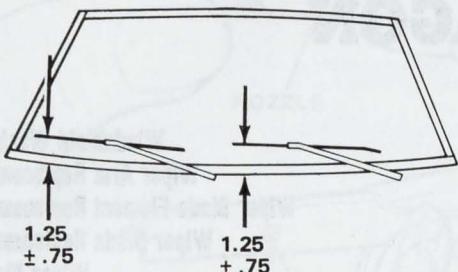
The wiper arms are set on the serrated pivot shaft and held securely by spring tension on the arm.

(1) To remove arm, lift arm against the spring tension and with a screwdriver, slide cap away from serrated pivot shaft.

NOTE: The arms are stamped R or L on the underside of the arm to designate the right or left arm.

(2) Operate wiper motor a few cycles, then turn off to position pivot shafts in park position before installing arms and blades.

(3) Install arms and blades on pivot shafts with tips of blades to right side of car. Tips of blades should be positioned according to dimensions shown in figure 3T-21.



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Fig. 3T-21 Wiper Arm Park Location Measurements (Inches)

(4) Wet windshield and recheck Park position by operating wiper motor several times—ON and OFF.

Cowl Air Intake Cover—Matador Sedan and Station Wagon

Removal

CAUTION: To prevent paint damage to the cover, dash panel assembly and hood, the following sequence must be observed.

(1) Open hood and remove air intake-to-cowl attaching screws.

(2) Close hood and remove windshield lower reveal mouldings using Trim Pad Depressor Tool J-2631-01 (padded with tape to prevent paint damage) to pry moulding loose along bottom edge.

(3) Remove air intake cover attaching screws from cowl top.

(4) Remove pivot shaft chrome hexagon nuts, washers, and spacers. Carefully lift cowl air intake cover straight up and away from car.

Installation

(1) Place cowl air intake cover in proper alignment with hood.

(2) Install pivot shaft body spacers, washers, and nuts. Tighten nuts 90 inch-pounds (10.2 Nm) torque.

(3) Install air intake-to-cowl screws from under hood. Lower hood and install remaining screws.

(4) Install lower reveal moulding.

(5) Install wiper arms (fig. 3T-21).

WIPER PIVOT SHAFT BODY AND LINK ASSEMBLY

Gremlin-Concord-AMX

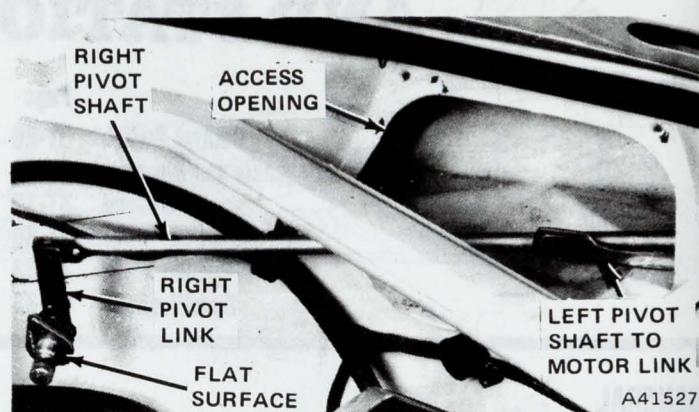
Replacement

(1) Remove wiper arms and blades.

(2) Remove pivot shaft-to-cowl top attaching nuts and washers.

(3) Remove wiper motor.

(4) Slide pivot shaft body and link assembly to left to clear right pivot shaft from opening and move assembly to right side of car to remove (fig. 3T-22).



**Fig. 3T-22 Removing Pivot Shafts and Link Assembly
Gremlin-Concord-AMX**

NOTE: When installing pivot shafts to cowl top, flat side of pivot shaft indexes flat side of hole in cowl top when pivot shaft is in up position. Tighten pivot shaft nuts to 120 inch-pounds (13.6 Nm) torque.

Matador Sedan Station Wagon

Removal

(1) Remove wiper arms and blades.

(2) Remove cowl air intake cover.

(3) Disconnect retainer and link from the wiper motor arm through cowl top opening.

(4) Remove screws attaching each pivot shaft body to cowl top.

(5) Remove assemblies through cowl top opening.

Installation

(1) Install pivot shaft and link assembly through cowl top opening.

(2) Install screws attaching each pivot shaft body to cowl top and tighten to 90 inch-pounds (10.2 Nm) torque.

(3) Connect link-to-wiper motor arm and install retainer.

(4) Install cowl air intake cover.

(5) Install wiper arms and blades.

DIAGNOSIS AND CIRCUITRY

This section is a guide to troubleshooting the windshield wiper system used on Gremlin, Concord, AMX and Matador Sedan and Station Wagon models. It consists of two parts: Diagnosis Charts and Circuitry Illustrations.

Service Diagnosis

**WINDSHIELD WIPERS DO NOT OPERATE OR
OPERATE AT ONE SPEED ONLY**

BOTH SPEEDS

HIGH OR LOW SPEED

CHECK FOR FOREIGN OBJECT INTERFERING WITH
LINKAGE.

SYSTEM IS FREE

WITH IGNITION SWITCH ON AND WIPER SWITCH AT
LOW SPEED AND THEN HIGH SPEED SETTING, CON-
NECT A TEST LIGHT BETWEEN THE TERMINALS OF
THE WIRING HARNESS PLUG THAT CONNECT TO
THE WIPER MOTOR LEAD AND GROUND AS FOL-
LOWS:

LOW SPEED:

WHITE W/TR
AND GROUND

HIGH SPEED:

DK. BLUE W/TR
AND GROUND

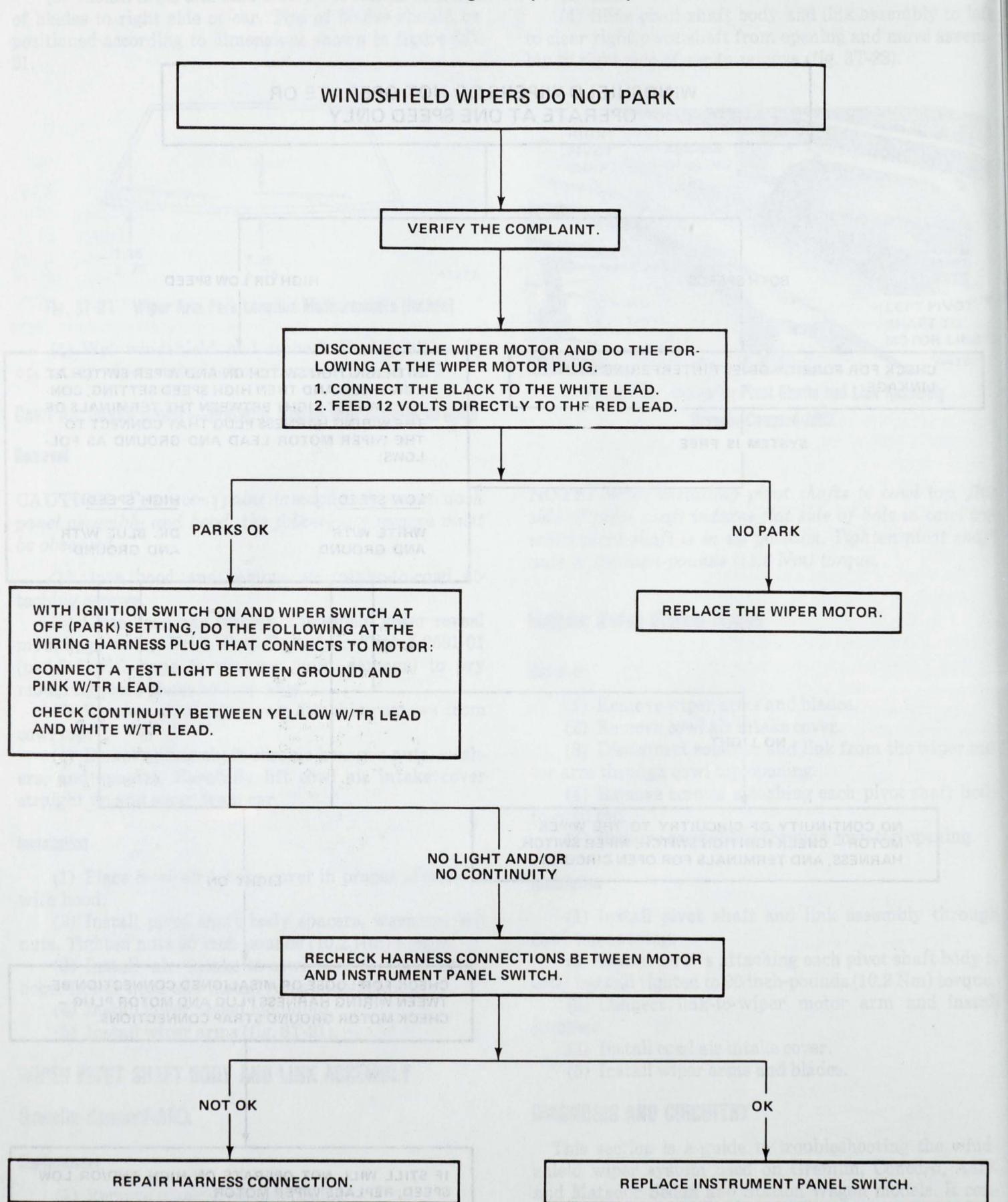
NO LIGHT

NO CONTINUITY OF CIRCUITRY TO THE WIPER
MOTOR - CHECK IGNITION SWITCH, WIPER SWITCH,
HARNESS, AND TERMINALS FOR OPEN CIRCUITS.

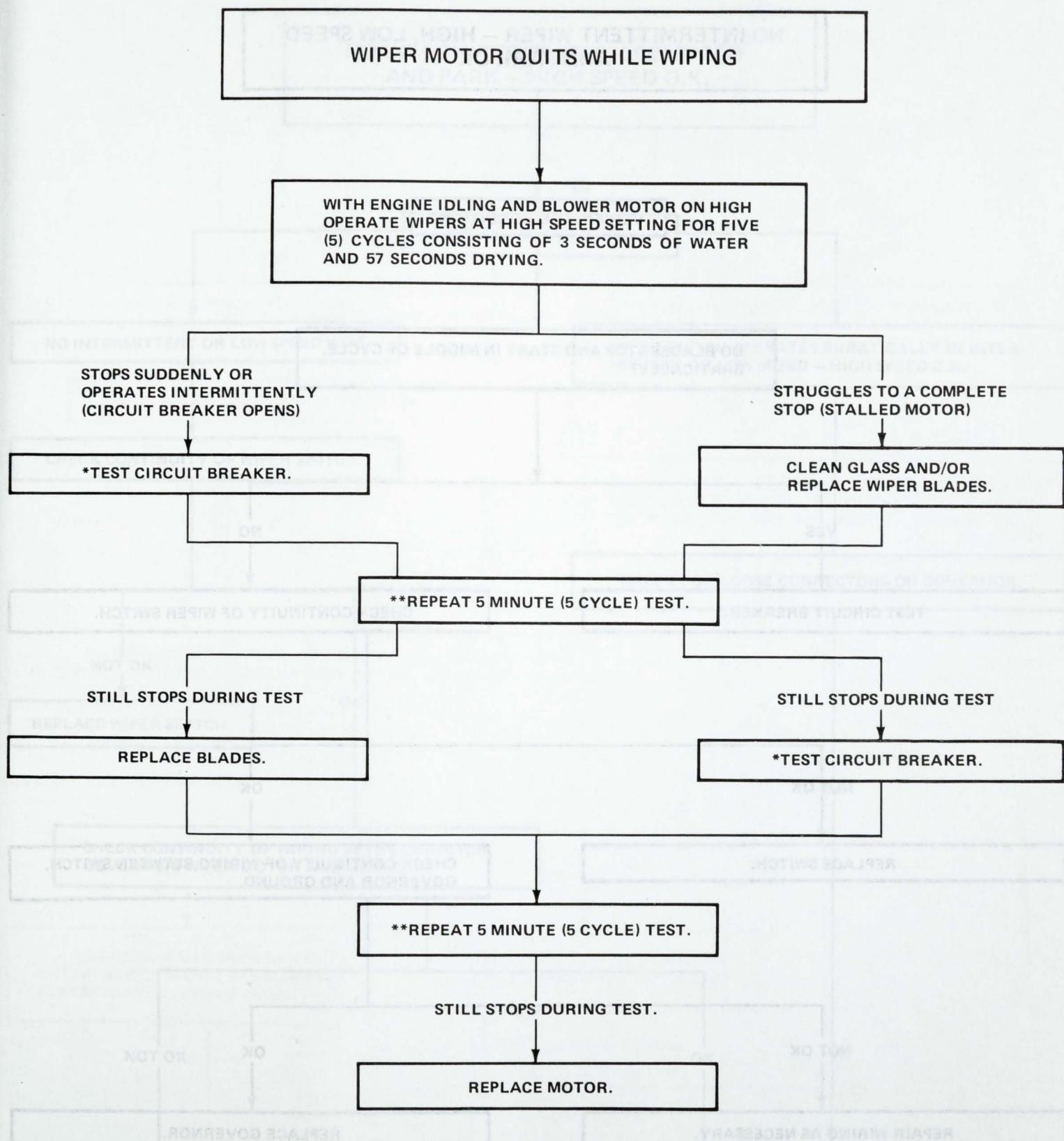
LIGHT ON

CHECK FOR LOOSE OR MISALIGNED CONNECTION BE-
TWEEN WIRING HARNESS PLUG AND MOTOR PLUG -
CHECK MOTOR GROUND STRAP CONNECTIONS.

IF STILL WILL NOT OPERATE ON HIGH AND/OR LOW
SPEED, REPLACE WIPER MOTOR.

Service Diagnosis (Continued)

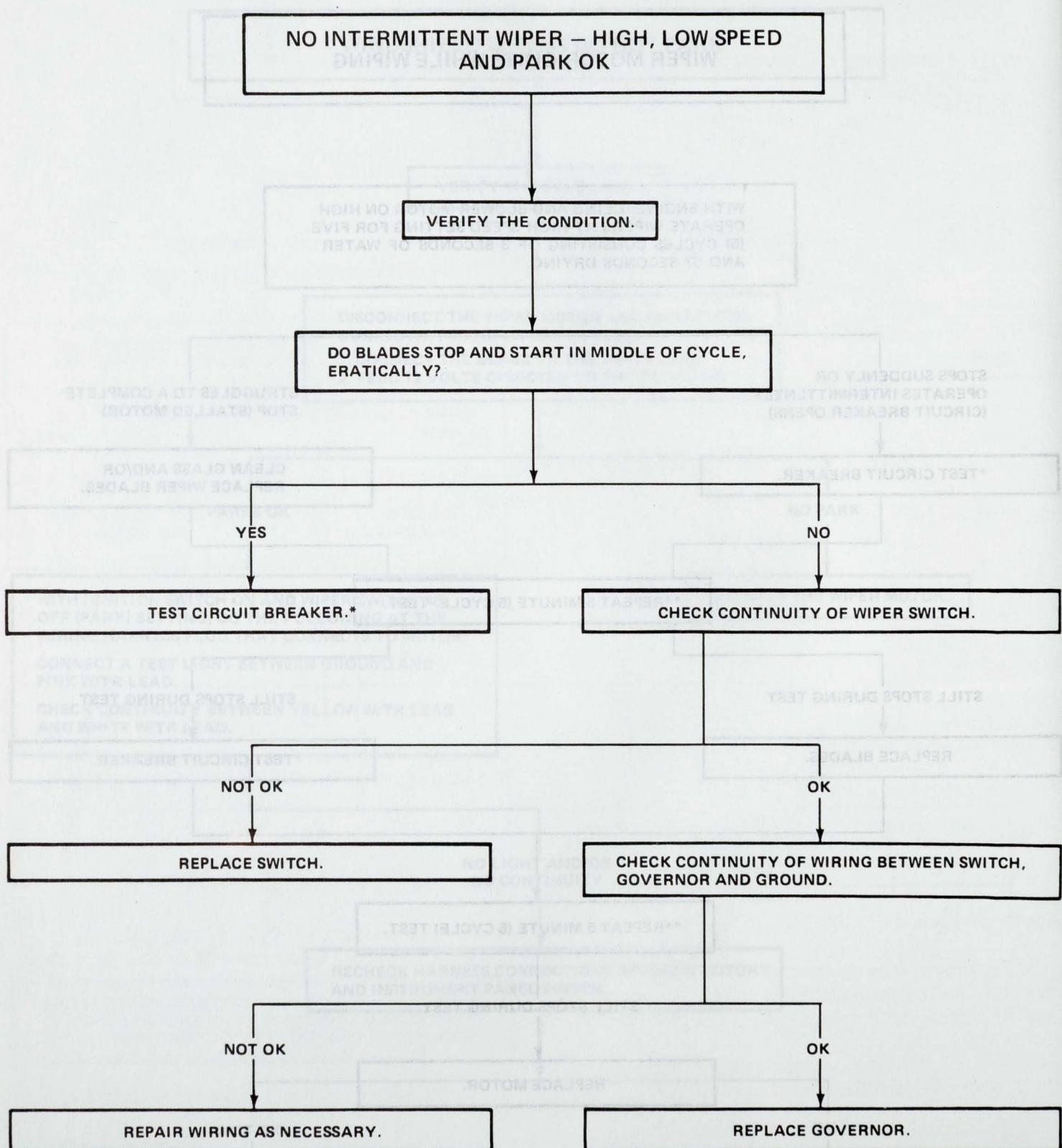
Service Diagnosis (Continued)



* CIRCUIT BREAKER IS INTEGRAL WITH INSTRUMENT PANEL SWITCH.

** ALLOW MOTOR TO COOL TO 140° F OR LOWER BEFORE STARTING REPEAT TESTS. IF MOTOR IS 140° F OR LOWER, THE HAND CAN BE HELD AGAINST MOTOR WITHOUT DISCOMFORT.

Service Diagnosis (Continued)



*WIPER SWITCHES HAVE INTERNAL CIRCUIT BREAKERS WHICH REQUIRE REPLACEMENT OF ENTIRE SWITCH.

Service Diagnosis (Continued)

**NO INTERMITTENT WIPE, LOW SPEED
AND PARK – HIGH SPEED O.K.**

VERIFY THE CONDITION.

NO INTERMITTENT OR LOW SPEED WIPE.

**WIPER SWITCH OPERATES ERRATICALLY IN INTER-
MITTENT OR LOW SPEED – HIGH SPEED O.K.**

CHECK CONTINUITY OF WIPER SWITCH.

CHECK FOR LOOSE CONNECTORS ON GOVERNOR.

NOT OK

REPLACE WIPER SWITCH.

OK

CHECK CONTINUITY OF WIRING BETWEEN SWITCH,
GOVERNOR, WIPER MOTOR AND GROUND.

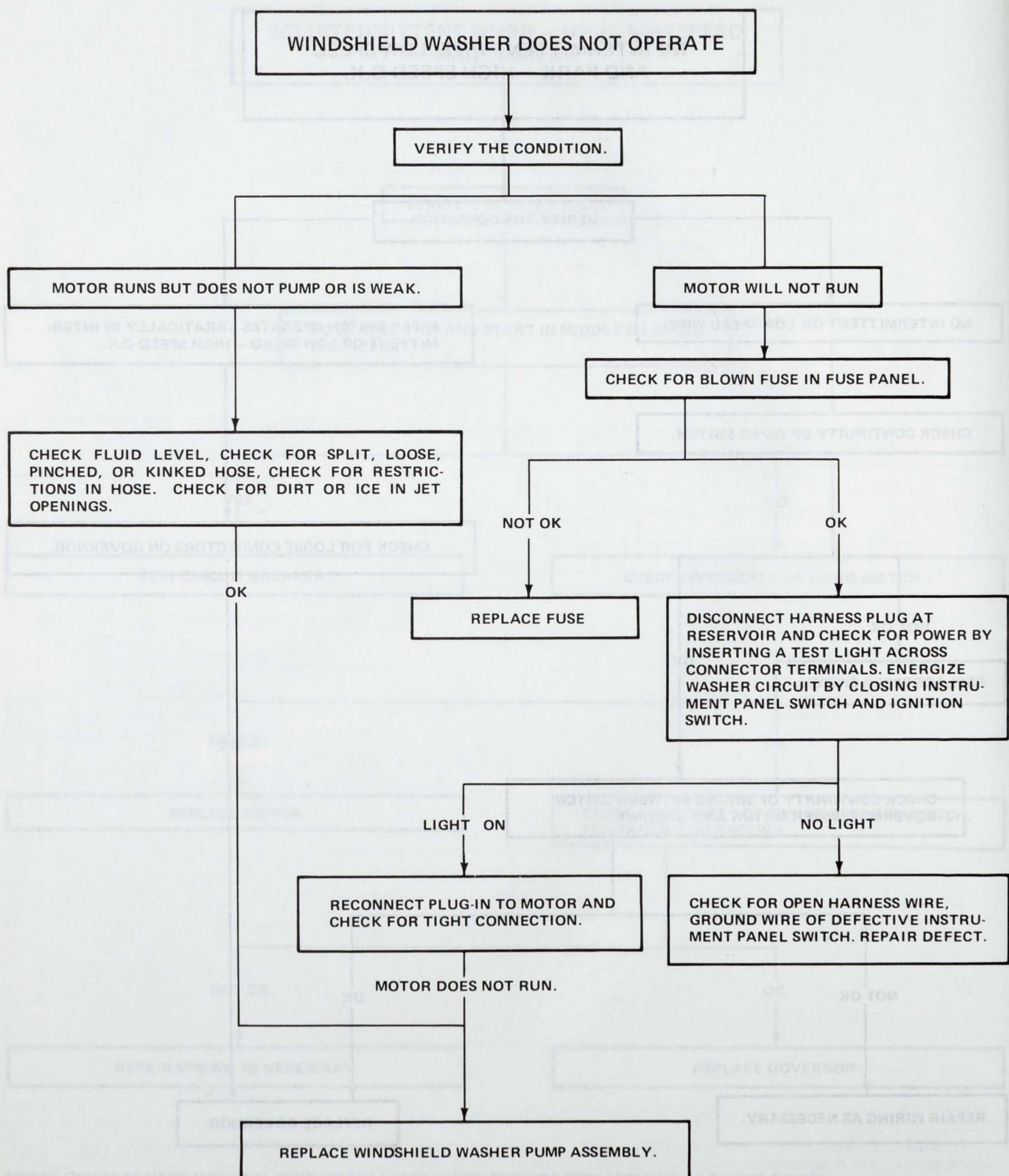
OK

NOT OK

REPAIR WIRING AS NECESSARY.

REPLACE GOVERNOR.

Service Diagnosis (Continued)



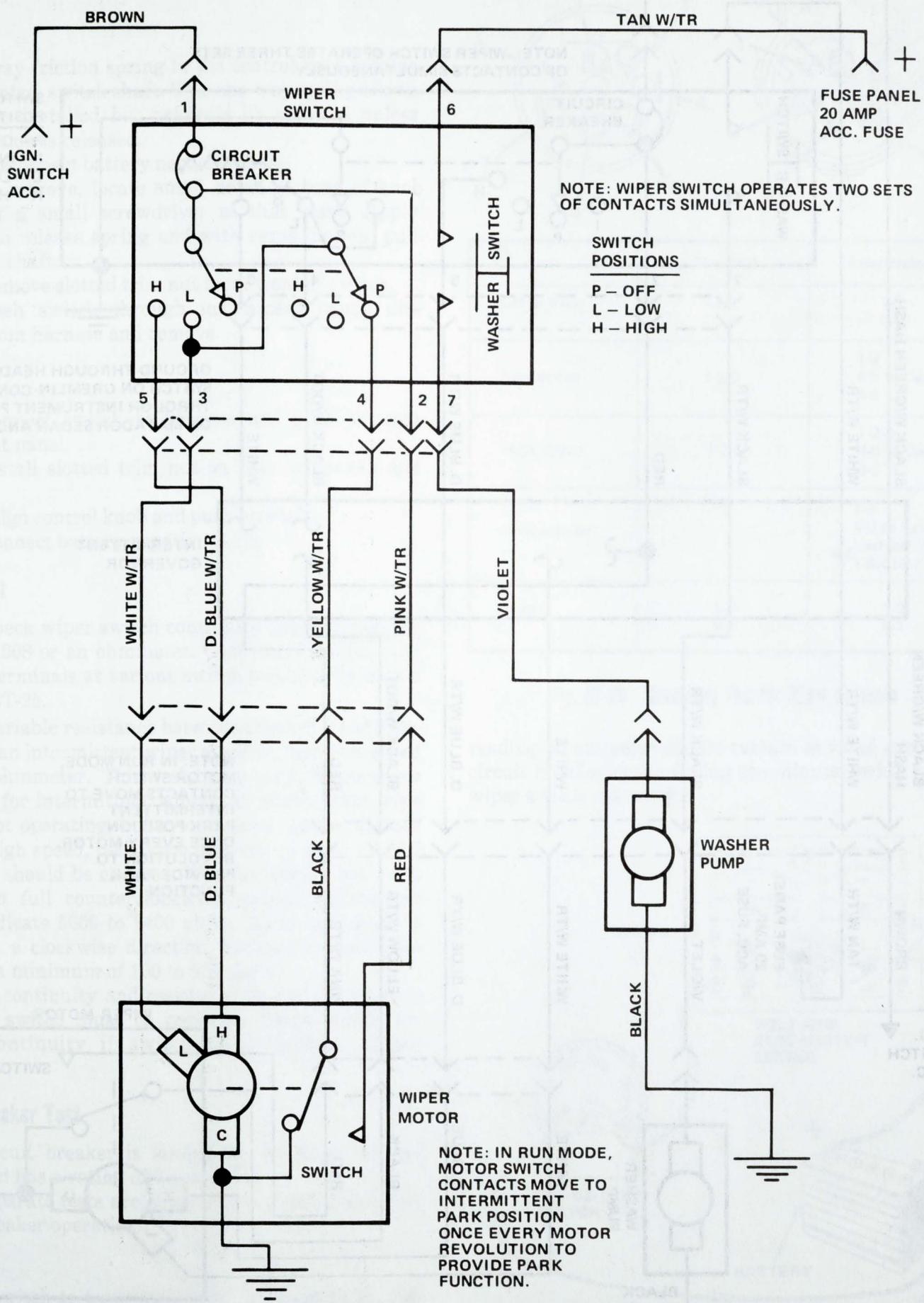


Fig. 3T-23 Windshield Wiper Circuitry—Gremlin-Concord-AMX-Matador Sedan and Station Wagon

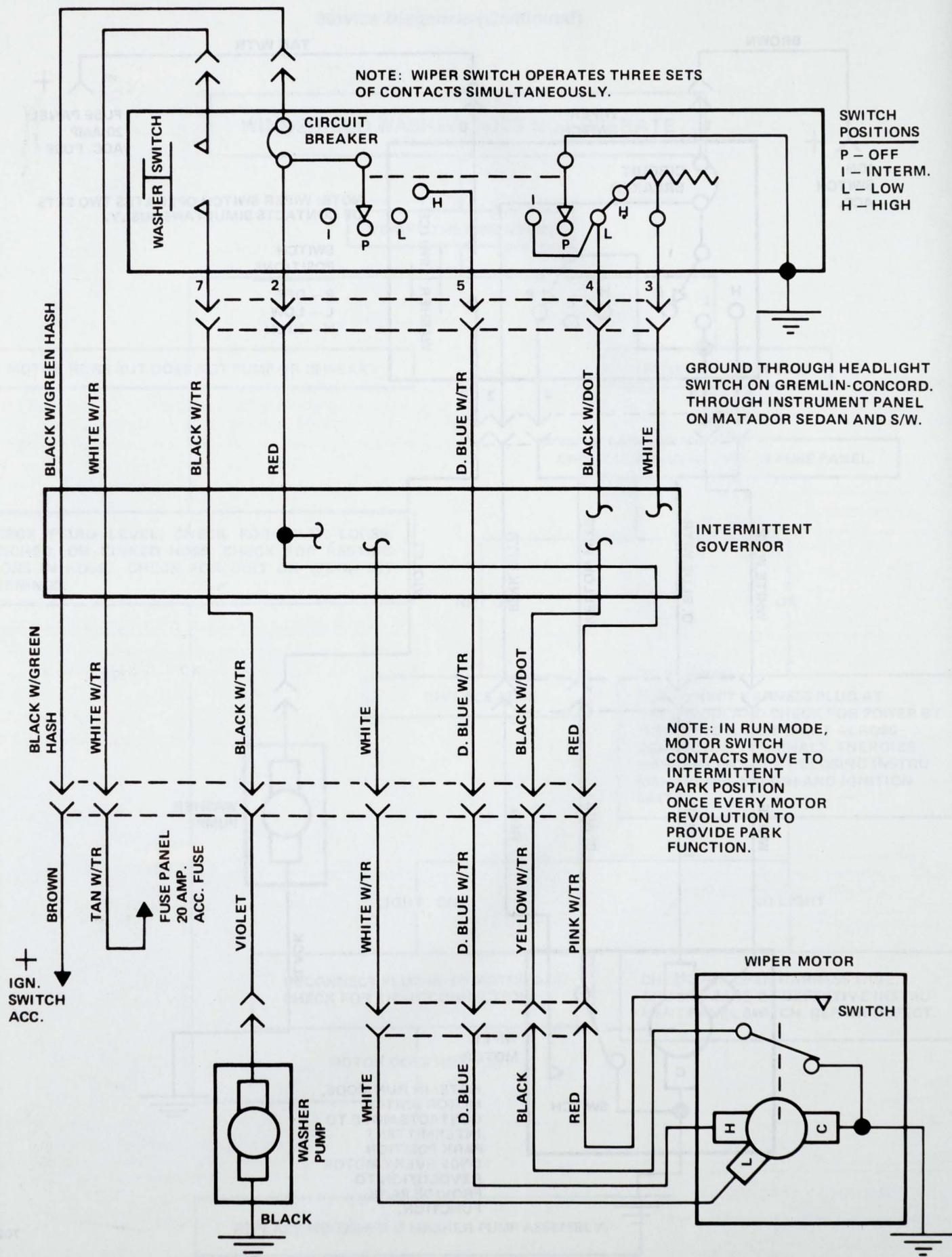


Fig. 3T-24 Windshield Wiper With Intermittent Governor Circuitry—Gromlin-Concord-AMX-Matador Sedan and Station Wagon

CONTROL SWITCH

Removal

A one-way friction spring in the control knob retains knob to control switch shaft. This one-way spring allows knob to be installed but prevents its removal unless spring tension is released.

- (1) Disconnect battery negative cable.
- (2) To remove, locate small notch at base of knob and insert a small screwdriver at that point. Apply pressure to release spring and with same motion, pull knob from shaft.
- (3) Remove slotted trim nut from front of switch.
- (4) Push switch through instrument panel, disconnect from harness and remove.

Installation

- (1) Connect switch to harness and push through instrument panel.
- (2) Install slotted trim nut on front of switch and tighten.
- (3) Align control knob and push on shaft.
- (4) Connect battery negative cable.

Switch Test

(1) Check wiper switch continuity using Continuity Light J-21008 or an ohmmeter. Continuity should exist between terminals at various switch positions as shown in figure 3T-25.

(2) Variable resistance between number 4 and 5 terminals of an intermittent wiper system must be checked with an ohmmeter. This resistance controls governor operation for intermittent wiping. If intermittent wipe cycle is not operating, but system does operate at both low and high speed, resistance between number 4 and 5 terminals should be checked. With switch control knob rotated to full counterclockwise position, ohmmeter should indicate 5600 to 8400 ohms. As control knob is rotated in a clockwise direction, resistance should decrease to a minimum of 100 to 900 ohms.

(3) If continuity and resistance do not check out as specified, switch must be replaced. Check wiring for proper continuity if switch tests indicate proper operation.

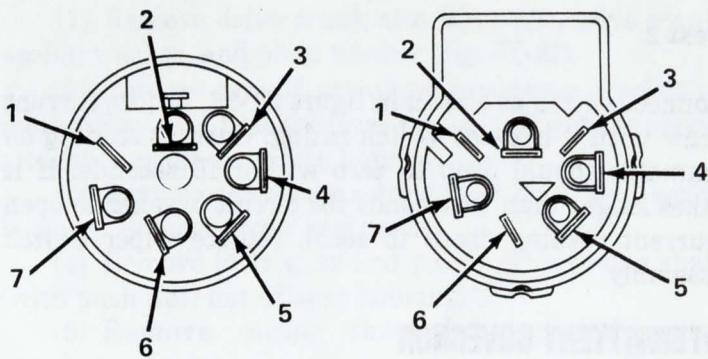
Circuit Breaker Test

The circuit breaker is located in the wiper control switch and has a rating of 7 amps.

Two separate tests are necessary to check for correct circuit breaker operation.

Test 1

Connect switch to tester as shown in figure 3T-26. Adjust current draw until it equals circuit breaker rating. Leave switch connected to tester for 10 minutes. Current

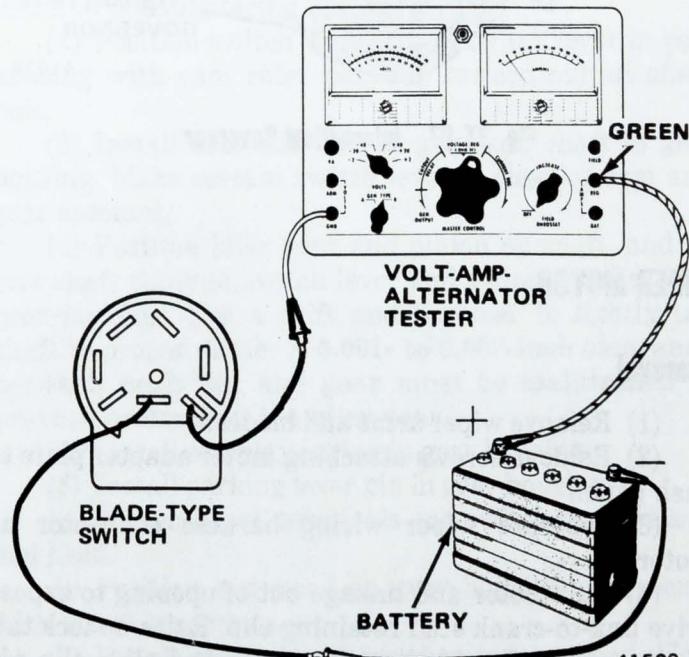


	Standard	Intermittent
Off or Park	1-2 3-4	1-2 4-5
Low Speed	1-2-3	1-2 4-5 to Case 4-5
High Speed	1-2-5	1-2-3 4-5 to Case 4-5
Intermittent		1-2 4-5 to Case Variable Resist. 4-5 1-9K to 7 K
Wash	1-2 6-7	1-2 6-7

41528

Fig. 3T-25 Continuity Test for Wiper Switches

reading on ammeter should remain at rated current. If circuit breaker opens during ten minute period, replace wiper switch assembly.



41529

Fig. 3T-26 Circuit Breaker Test

Test 2

Connect switch as shown in figure 3T-26. Adjust current draw until it is twice switch rating. Current reading on ammeter should drop to zero within 15 seconds. If it takes longer than 15 seconds for circuit breaker to open (current reading drops to zero), replace wiper switch assembly.

INTERMITTENT GOVERNOR

To check the intermittent governor accurately requires electronic testing equipment. However, if the intermittent wipe cycle is not satisfactory, check related components such as the motor, control switch, and connecting wires. If all components function properly, install a new governor.

The electronic governor assembly is contained in a two-inch cube which is attached to an instrument panel bracket (horizontally on Gremlin-Concord-AMX, vertically on Matador Sedan and Station Wagon) adjacent to the wiper control switch. The 6-inch governor lead plugs into the wiper control switch and the shorter, 4-inch lead plugs into the instrument panel harness (fig. 3T-27).

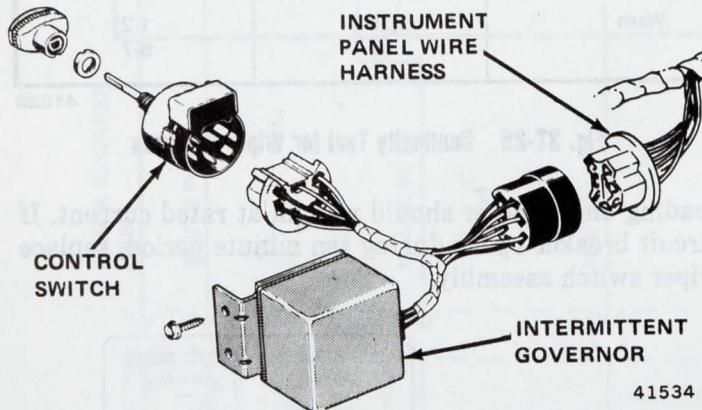


Fig. 3T-27 Intermittent Governor

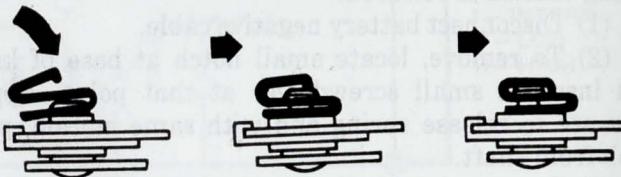
WIPER MOTOR**Removal**

- (1) Remove wiper arms and blades.
- (2) Remove screws attaching motor adapter plate to dash panel.
- (3) Separate wiper wiring harness connector at motor.
- (4) Pull motor and linkage out of opening to expose drive link-to-crank stud retaining clip. Raise up lock tab of clip with a flat blade screwdriver and slide clip off stud.
- (5) Remove wiper motor assembly.

Installation

(1) Position wiper motor assembly and insert crank stud into drive link bushing.

(2) Press retaining clip onto stud and slide it in place in stud groove (fig. 3T-28). Check for positive retention.



41526

Fig. 3T-28 Linkage Retainer Clip Installation Sequence

(3) Install wiper motor attaching screws. Tighten attaching screws to 25 inch-pounds (2.8 Nm) torque.

(4) Operate wiper motor a few cycles, then turn off to position pivots in park position before installing arms and blades.

(5) Install wiper arms and blades according to dimensions shown in figure 3T-21.

(6) Wet windshield and check for proper park position.

Current Draw Test—On Car

(1) Remove wiper arms and blades and disconnect motor lead.

(2) Connect negative lead of ammeter to positive battery post (fig. 3T-29).

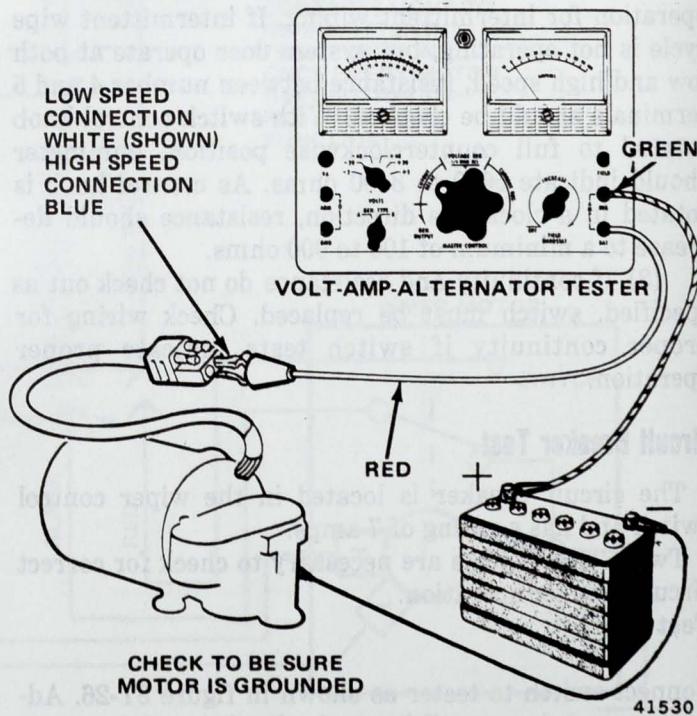


Fig. 3T-29 Wiper Motor Current Draw Test Connections

(3) Connect other ammeter test lead to white wire terminal (low speed) of motor harness. Current draw should be approximately one amp but not more than three amps.

(4) Connect blue wire terminal (high speed). Current draw should remain about the same. In either case, current draw should not exceed three amps.

Park Test

(1) Disconnect motor from harness connection. Temporarily contact a battery feed to either white or blue wire to move wiper arms and blades away from normal park position.

(2) Insert jumper wire from white to black wire terminals (fig. 3T-30).

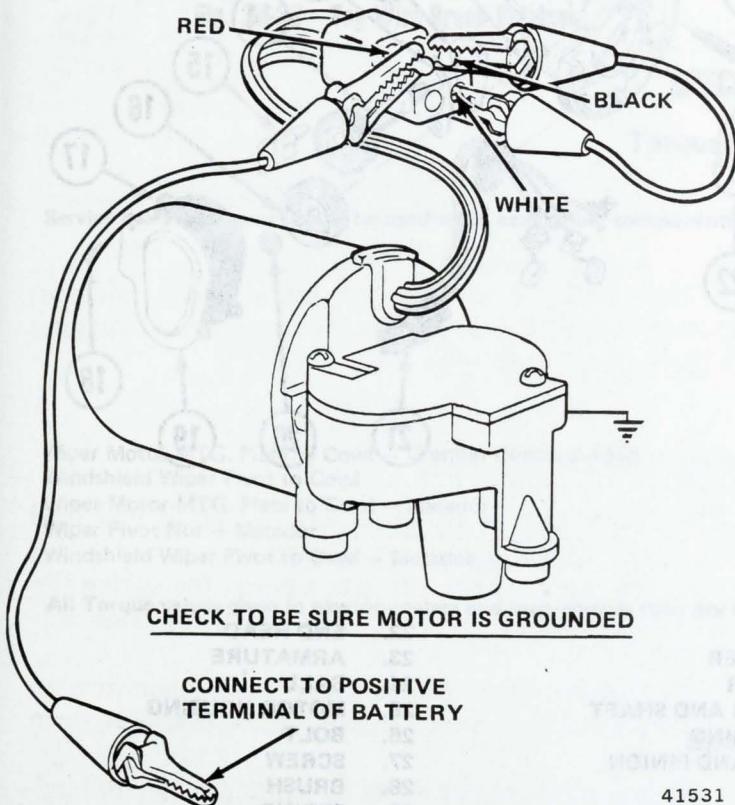


Fig. 3T-30 Park Test

41531

(3) Contact a battery feed to red wire terminal of motor harness. Motor should operate until wipers have reached normal park position.

(4) If wiper motor does not park correctly, replace or repair wiper motor.

Disassembly

CAUTION: The motor field consists of two permanent ceramic-type magnets which can be damaged by pounding on the motor housing or the magnets.

NOTE: Mark position of drive crank with respect to output shaft for correct assembly.

(1) Remove drive crank attaching nut, drive crank, spring washer, and plain washer (fig. 3T-31).

(2) Remove screws attaching mounting bracket to motor. Separate bracket from motor and remove screw attaching ground strap to bracket.

(3) Remove screws attaching gear housing cover to housing. Remove cover and gasket.

(4) Remove idler gear and pinion by pressing shaft (with push nut) out of gear housing.

(5) Remove motor through-bolts and motor housing.

NOTE: The field magnets will hold the armature in the motor housing as it is removed from the gear housing.

(6) Remove end play spring, output gear and shaft, switch lever, switch washer, and seal from gear housing.

(7) Remove brushes, harness, and springs from end head.

(8) Remove end head assembly.

(9) Remove parking lever pin from gear housing.

(10) Remove all old lubricant from gear housing and components.

(11) Inspect gear housing and all components for damage or excessive wear. Replace damaged or excessively worn components.

(12) Apply a coating of American Motors All Purpose Lubricant, or equivalent, to all bearing surfaces and gears.

Assembly

(1) Position gear housing on a flat surface with inside of housing facing up.

(2) Position switch washer and switch lever in gear housing with cam rider pointing toward output shaft hole.

(3) Install seal and output gear and shaft in gear housing. Make certain switch lever is clear of cam and gear assembly.

(4) Position idler gear and pinion on shaft, and insert shaft through switch lever and switch washer into gear housing. Use a drift and hammer to lightly tap shaft to proper depth. A 0.001- to 0.007-inch clearance between push nut and gear must be maintained to prevent preloading the idler gear.

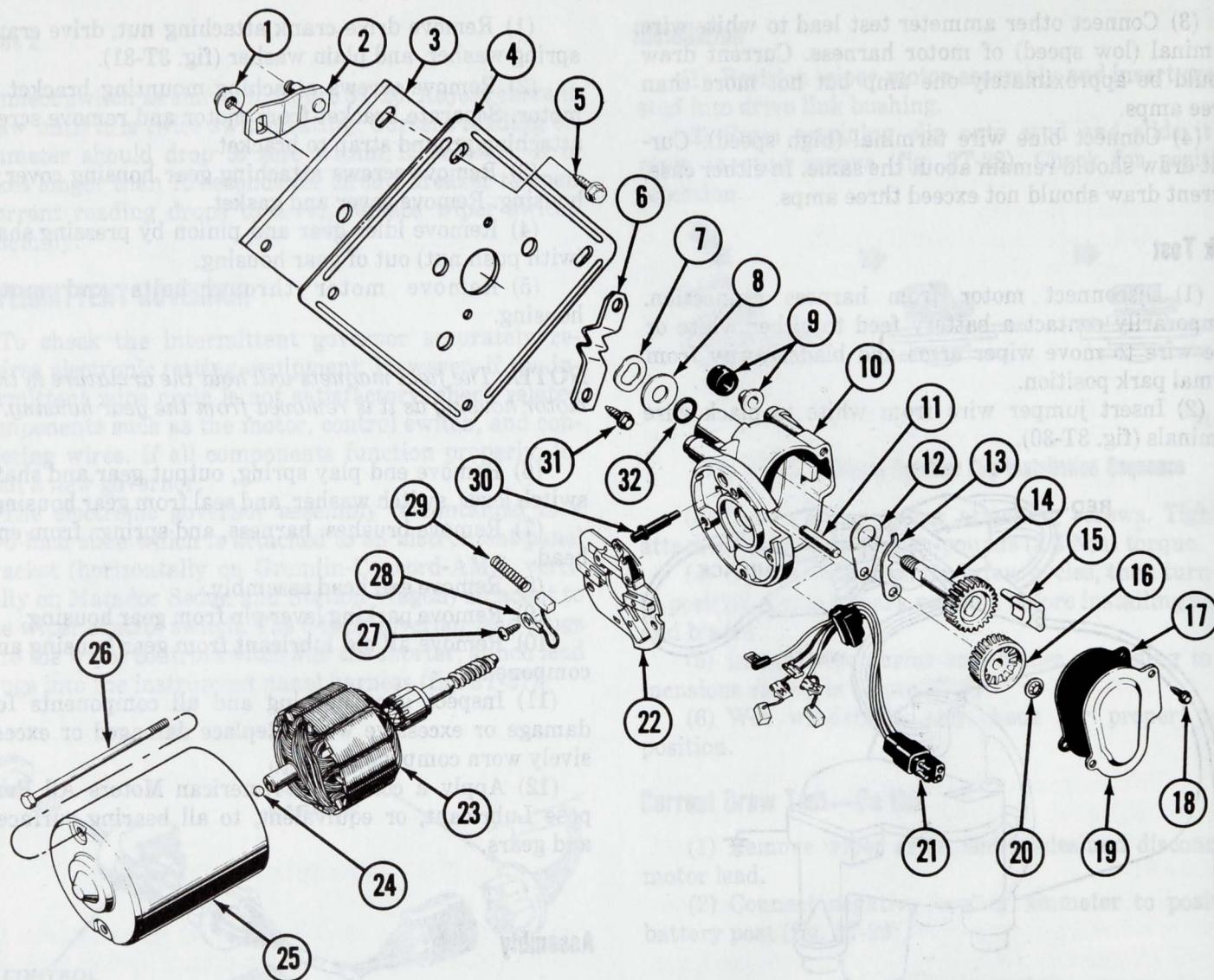
(5) Install end play spring in gear housing.

(6) Install parking lever pin in gear housing.

(7) Attach brush terminals and switch terminals to end head.

(8) Position end head on gear housing and secure with attaching screws.

(9) Install springs and brushes in end head. Hold each brush in the fully retracted position with tag wire as shown in figure 3T-32.



- | | | |
|------------------|---------------------------|-----------------------|
| 1. NUT | 11. SHAFT | 22. END HEAD |
| 2. DRIVE CRANK | 12. SWITCH WASHER | 23. ARMATURE |
| 3. SEAL | 13. SWITCH LEVER | 24. BALL |
| 4. BRACKET | 14. OUTPUT GEAR AND SHAFT | 25. MOTOR HOUSING |
| 5. SCREW | 15. END PLAY SPRING | 26. BOLT |
| 6. GROUND STRAP | 16. IDLER GEAR AND PINION | 27. SCREW |
| 7. SPRING WASHER | 17. GASKET | 28. BRUSH |
| 8. PLAIN WASHER | 18. SCREW | 29. SPRING |
| 9. GROMMET | 19. COVER | 30. PARKING LEVER PIN |
| 10. GEAR HOUSING | 20. PUSH NUT | 31. SCREW |
| | 21. BRUSHES AND HARNESS | 32. SEAL |

Fig. 3T-31 Wiper Motor and Transmission Components

(10) Apply a small amount of lubricant to armature end shaft and ball.

(11) Install armature in gear housing and remove tag wire brush retainers.

NOTE: Make certain plastic thrust button in end play spring is bearing against end of armature shaft.

(12) Install motor housing on armature, holding armature worm gear to prevent field magnetic from pulling armature out of position in gear housing.

(13) Align indicator marks on motor housing and gear housing before inserting through-bolts.

(14) Install through-bolts securing motor housing to gear housing.

(15) Apply generous amount of lubricant to gear housing cavity.

(16) Position gasket and cover on gear housing and install two attaching screws.

(17) Position motor assembly and ground strap on mounting bracket and install ground strap attaching screw.

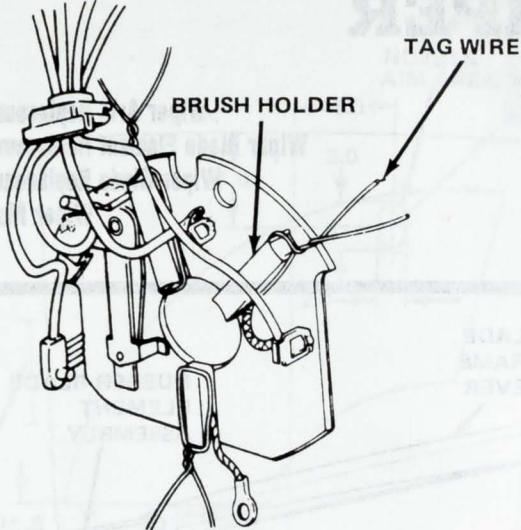


Fig. 3T-32 Tag Wire Brush Retainers

80490

(18) Install grommets in mounting bracket and secure motor assembly to bracket with attaching screws. Tighten attaching screws to 23 inch-pounds (2.6 Nm) torque.

(19) Install plain washer and spring washer on output shaft, position drive crank on output shaft in the marked position from which it was removed, and install nut. Tighten nut to 120 inch-pounds (13.6 Nm) torque.

WINDSHIELD WASHERS

The electric pump assembly is mounted in the bottom of the water reservoir. The impeller motor case is grounded to the car body by a ground wire. It is energized by a feed wire from the No. 6 and 7 terminals on the control switch.

SPECIFICATIONS

Torque Specifications

Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	Metric (N·m)	USA (in.lbs.)
Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque
Windshield Wiper Pivot to Cowl — Gremlin-Concord-AMX	3	2-4
Windshield Wiper Pivot to Cowl — Matador	13	11-15
Wiper Motor MTG. Plate to Cowl — Gremlin-Concord-AMX	3	2-4
Wiper Pivot Nut — Matador	5	4-6
Windshield Wiper Pivot to Cowl — Matador	10	10-13

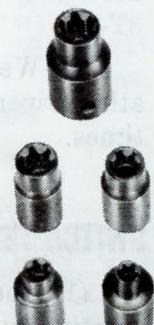
All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

Metric (N·m)	USA (in.lbs.)
Service Set-To Torque	In-Use Recheck Torque
Windshield Wiper Pivot to Cowl — Gremlin-Concord-AMX	23
Windshield Wiper Pivot to Cowl — Matador	118
Wiper Motor MTG. Plate to Cowl — Gremlin-Concord-AMX	23
Wiper Pivot Nut — Matador	45
Windshield Wiper Pivot to Cowl — Matador	90

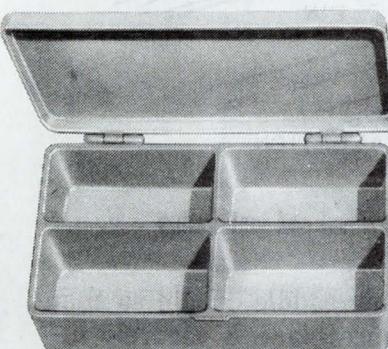
Special Tools



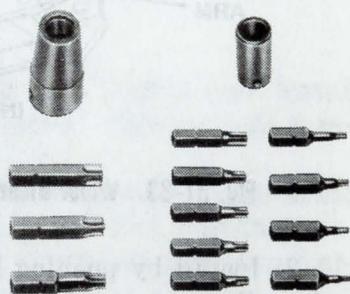
**J-2631-01
TRIM PAD
DEPRESSOR**



**J-21008
CONTINUITY LIGHT**



**J-25359-02
TORX BIT AND
SOCKET SET**



70119

PACER LIFTGATE WIPER

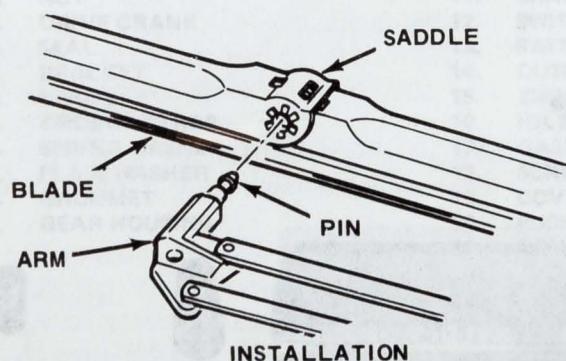
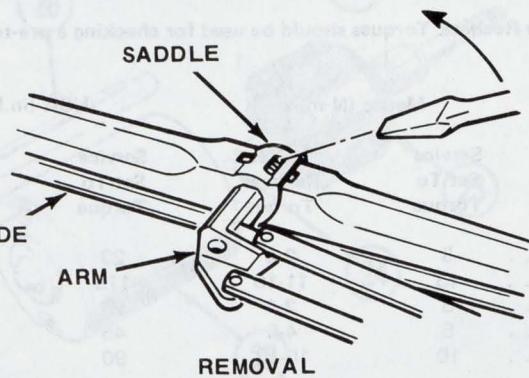
Page		Page	
General	3T-34	Wiper Arm Replacement	3T-34
Liftgate Washer	3T-37	Wiper Blade Element Replacement	3T-34
Special Tools	3T-37	Wiper Blade Replacement	3T-34
Specifications	3T-37	Wiper Motor	3T-33
Switch Diagnosis	3T-34		

GENERAL

The liftgate wiper motor is a single-speed motor equipped with an automatic park feature. The liftgate wiper motor circuit is protected by a separate 4.5 amp circuit breaker attached to the brake pedal support.

WIPER BLADE REPLACEMENT

(1) Remove pin-type blade by inserting an appropriate tool into spring release opening of blade saddle, depressing spring clip and pulling blade from arm (fig. 3T-33).



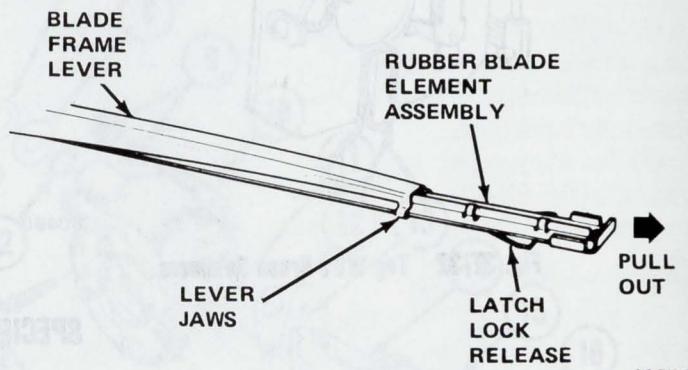
41051

Fig. 3T-33 Wiper Blade Removal and Installation

(2) Install by pushing blade saddle on pin so that spring clip engages pin. Be sure blade is securely attached to arm.

WIPER BLADE ELEMENT REPLACEMENT

(1) Squeeze latch lock release and pull element out of lever jaws (fig. 3T-34).



41524

Fig. 3T-34 Wiper Blade Element Replacement

(2) Install by inserting replacement element through each of the lever jaws. Be sure element engages all lever jaws.

WIPER ARM REPLACEMENT

The wiper arm is set on a serrated shaft and held securely by spring tension on the arm.

(1) To remove arm, lift arm against the spring tension and with a screwdriver slide cap away from serrated shaft.

(2) Operate wiper motor a few cycles, then turn off to position shaft in park position before installing arm and blade.

(3) Install arm and blade on shaft with tip of blade to left side of car. Tip of blade should be positioned according to the dimension shown in figure 3T-35 and 3T-36.

(4) Wet glass and recheck park position by operating wiper motor to the ON and OFF positions several times.

SWITCH TEST

(1) Check wiper washer switch continuity using Continuity Light J-21008 or ohmmeter. Continuity should exist between terminals at various switch positions as shown in figure 3T-37.

(2) If continuity does not check out as specified, the switch must be replaced. If switch tests indicate proper continuity, check wiring (fig. 3T-38).

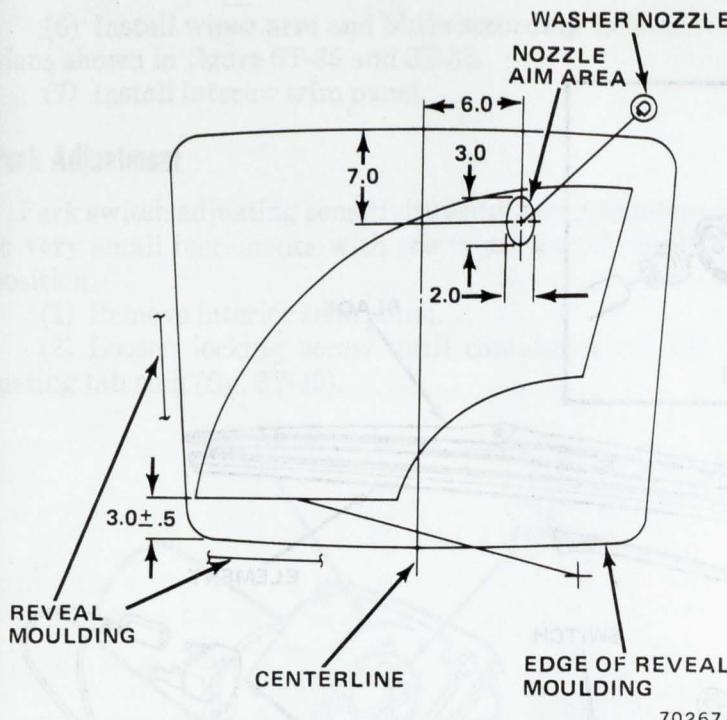


Fig. 3T-35 Wiper Arm Park and Washer Nozzle Aiming Location Measurement (Inches)—Pacer Hatchback

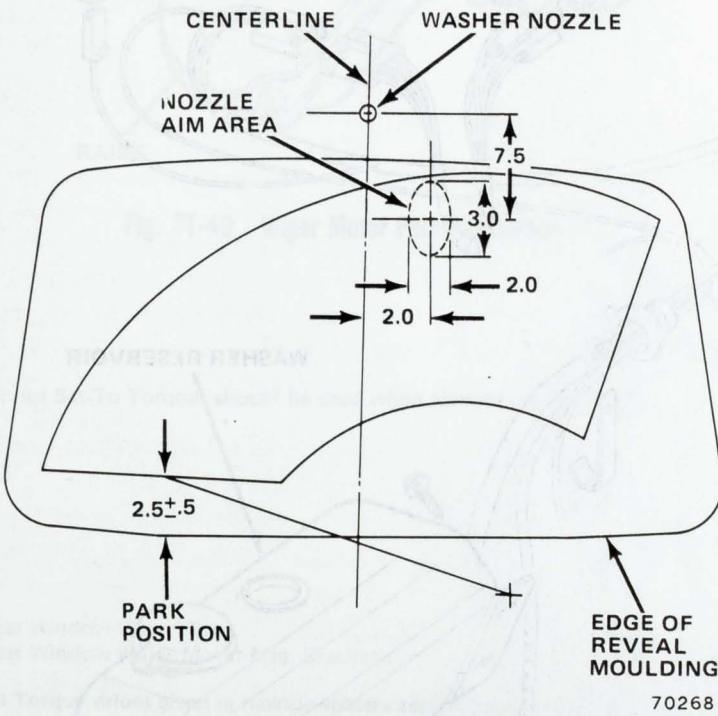
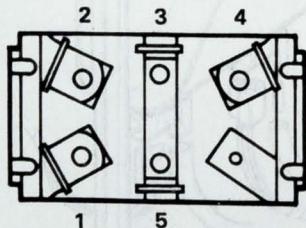


Fig. 3T-36 Wiper Arm Park and Washer Nozzle Aiming Location Measurement (Inches)—Pacer Wagon



SWITCH POSITION	CONTINUITY BETWEEN TERMINALS
RUN	3 TO 1
PARK	3 TO 4
WASH	3 TO 1 3 TO 2

50345

Fig. 3T-37 Continuity Test for Liftgate Wiper/Washer Switch

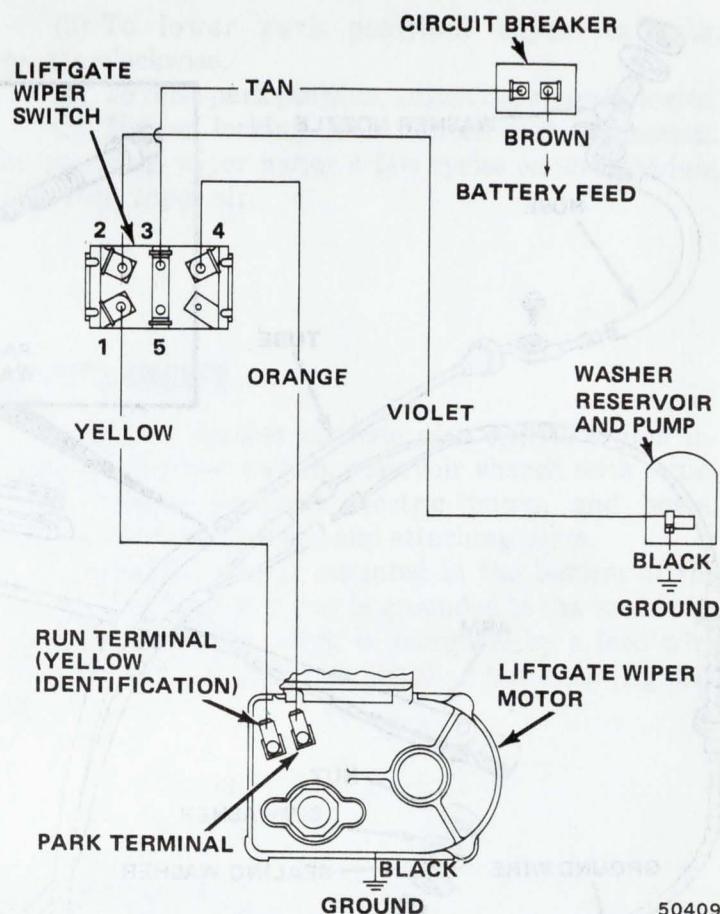


Fig. 3T-38 Liftgate Wiper/Washer Circuity

WIPER MOTOR

Removal

- (1) Remove wiper arm and blade (fig. 3T-39).
- (2) Remove interior trim panel from liftgate.
- (3) Disconnect wiper wiring harness from wiper motor.
- (4) Remove screw attaching ground wire to liftgate.
- (5) Remove nut and pad attaching wiper motor shaft to liftgate.
- (6) Remove screw attaching wiper motor mounting bracket to liftgate. Remove wiper motor.

Installation

- (1) Position wiper motor in liftgate and install mounting bracket attaching screw. Tighten to 55 inch-pounds (6.2 Nm) torque.
- (2) Install pad and nut attaching wiper motor shaft to liftgate. Tighten to 30 inch-pounds (3.4 Nm) torque.
- (3) Position ground wire on liftgate and install attaching screw.
- (4) Connect wiper wiring harness on wiper motor. Motor terminals and wiring harness connectors are color coded.
- (5) Operate wiper motor for a few cycles, then turn off to position shaft in park position before installing arm and blade.

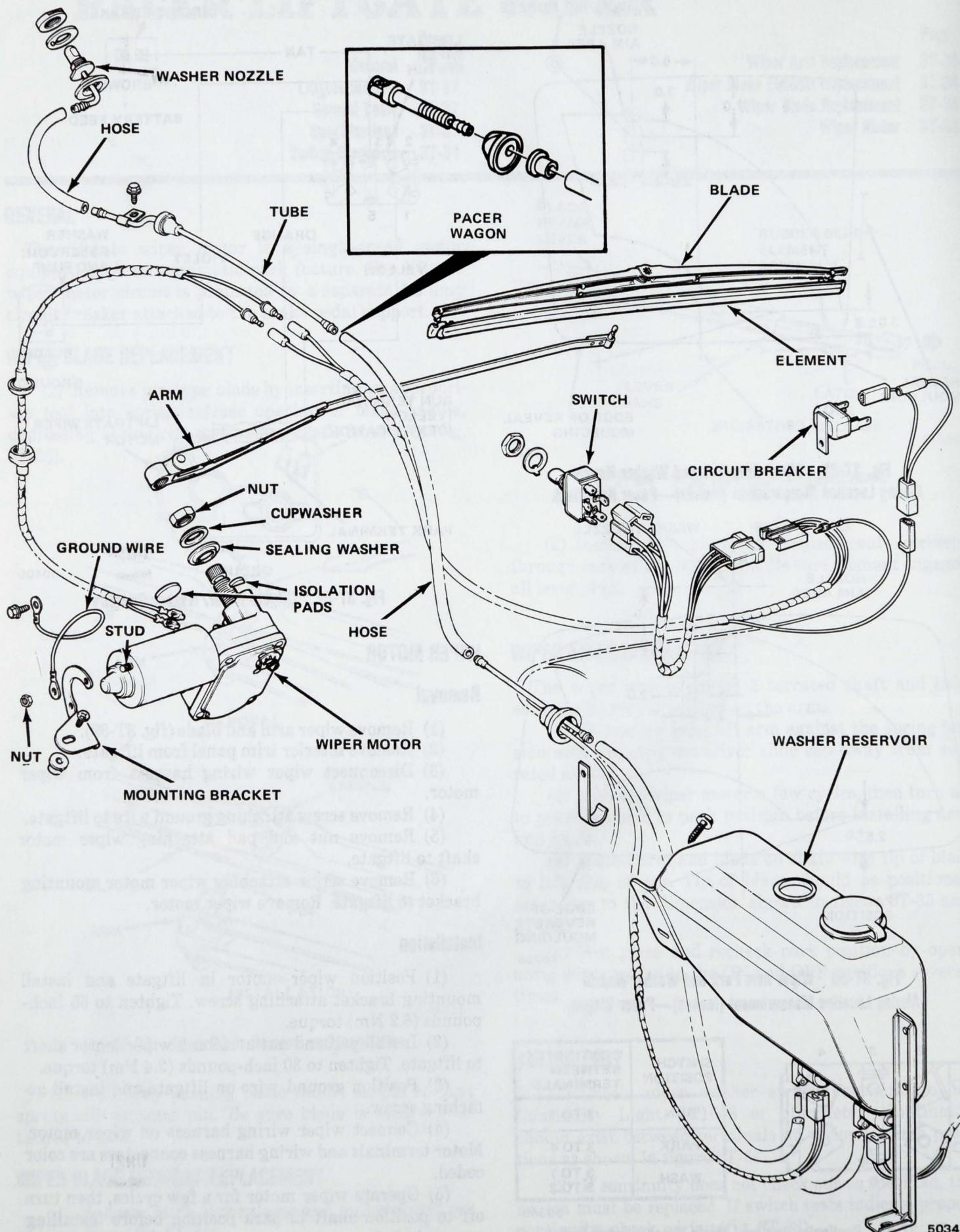


Fig. 3T-39 Liftgate Wiper and Washer

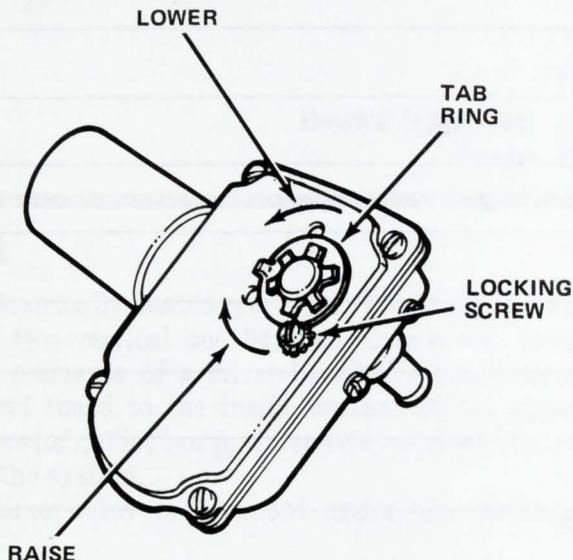
50343

- (6) Install wiper arm and blade according to dimensions shown in figure 3T-35 and 3T-36.
 (7) Install interior trim panel.

Park Adjustment

Park switch adjusting sensitivity requires adjustment in very small increments with the wiper switch in ON position.

- (1) Remove interior trim panel.
 (2) Loosen locking screw until completely off adjusting tab ring (fig. 3T-40).



50344

Fig. 3T-40 Wiper Motor Park Adjustment

- (3) To lower park position, adjust tab ring counterclockwise.
 (4) To raise park position, adjust tab ring clockwise.
 (5) Tighten locking screw. Check park adjustment by operating wiper motor a few cycles on wet window, then turn wiper off.

LIFTGATE WASHER

The liftgate washer consists of a control switch integral with wiper switch, reservoir shared with windshield washer, separate electric pump, and hoses, tubing, adjustable nozzle, and attaching parts.

The electric pump is mounted in the bottom of the water reservoir. The pump is grounded to the vehicle by a ground wire. The pump is energized by a feed wire from the No. 2 terminal on the control switch (fig. 3T-38).

Nozzle Adjustment

The liftgate washer nozzle is adjustable by using a small diameter pin or needle to swivel the ball. Adjust the ball to produce a pattern as shown in figures 3T-35 and 3T-36.

SPECIFICATIONS

Torque Specifications

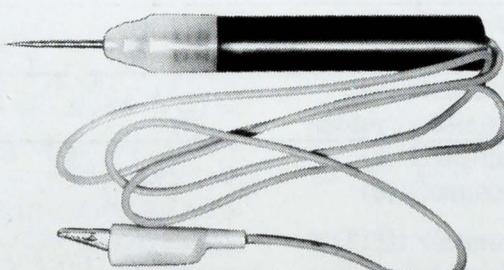
Service Set-To Torques should be used when assembling components. Service In-Use Recheck Torques should be used for checking a pre-torqued item.

	Metric (N·m)		USA (in.lbs.)	
	Service Set-To Torque	In-Use Recheck Torque	Service Set-To Torque	In-Use Recheck Torque
Rear Window Wiper Pivot	4	3-4	32	27-37
Rear Window Wiper Motor Mtg. Bracket	6	6-8	55	50-70

All Torque values given in newton-meters and inch-pounds with dry fits unless otherwise specified.

70270

Special Tools



J-21008
CONTINUITY LIGHT

70071

- (6) Install switch from back of instrument panel center housing.
- (7) Install nut and tighten securely.
- (8) Install package tray, if removed.

Matador

- (1) Remove lower instrument finish panel as outlined in Chapter 3C.

NOTE: Tag or note position of wires on switch before removal.

- (2) Disconnect wires from back of switch.
- (3) Remove switch from back of lower instrument finish panel.
- (4) Install switch in lower instrument finish panel.
- (5) Connect wires to back of switch as previously noted above.
- (6) Install lower instrument finish panel as outlined in Chapter 3C.

ELECTRICAL SYSTEM TESTS

System Test

Check for battery voltage to red wire at relay. If there is no current, check fusible link or red wire and repair fault (fig. 3U-1, 3U-2 and 3U-3).

If red wire has current, depress and HOLD switch and check feed from switch wire to relay (brown wire on Matador and white wire on all others).

NOTE: A test lamp will immediately ground the circuit and indicate no current flow if the switch is not held ON. A voltmeter will indicate a reading less than battery voltage if the switch is not held ON.

If switch circuit does not feed relay, test fuse, switch or wiring. If switch circuit has current with switch depressed, check for current at blue wire terminal of relay. If blue wire has current, relay is operating properly. Test the indicator lamp and grid circuits. If blue wire does not have current, connect a jumper wire from ground to relay case and repeat tests. If blue wire now has current, clean and repair ground. If it does not, replace the relay. If current is available at blue wire terminal and switch indicator lamp and/or grid do not operate, test each circuit to locate fault.

Pacer-Gremlin-Concord-AMX Switch Test

- (1) Disconnect yellow and white wires from switch (fig. 3U-1 and 3U-2). Connect an ohmmeter across spade terminals on switch to check diode. With switch in OFF position, the ohmmeter should indicate continuity in one direction, and with the ohmmeter leads reversed, should indicate an open circuit in other direction.

NOTE: Some resistance through the diode in the closed circuit direction is normal. Ohmmeter may not read

exactly zero, but should show infinite one way and continuity the other way.

(2) Diode can also be tested using a test lamp. With switch in OFF position, test lamp should light in only one direction. With switch in ON position, test lamp should light in both directions.

(3) When switch is depressed and held in ON position, ohmmeter should indicate zero ohms resistance in both directions.

(4) To test indicator light, disconnect blue and black wires from lamp terminals. Connect a jumper wire from accessory terminal of fuse panel to one terminal on the switch. Connect a jumper wire from the other switch terminal to a good ground. With ignition switch turned to ACC position, the bulb should light.

Matador Switch Test

(1) Disconnect brown and yellow wires from switch (fig. 3U-3). Connect an ohmmeter across spade terminals on switch. With switch in OFF position, ohmmeter should indicate continuity in one direction, and with ohmmeter leads reversed, should indicate an open circuit in the other direction.

NOTE: Some resistance through the diode in the closed circuit direction is normal. Ohmmeter may not read exactly zero, but should show infinite one way and continuity the other way.

(2) Diode can also be tested using a test lamp. With switch in OFF position, test lamp should only light in one direction. With switch in ON position, test lamp should light in both directions.

(3) When switch is depressed and held in ON position, ohmmeter should indicate zero ohms resistance in both directions.

(4) To test indicator light incorporated into switch, disconnect blue and black wires from spade terminals. Connect jumper wire from accessory terminal of fuse panel to one terminal of switch. Connect jumper wire from other switch terminal to a good ground. With ignition switch turned to ACC position, bulb should light.

Grid Test

When a grid is inoperable due to an open circuit, the area of glass normally cleared by that grid will remain fogged or iced until adequately warmed by the adjacent grids. Use the following procedure to locate a broken grid.

(1) With engine running at idle, push rear window defogger switch to operating position. Pilot lamp should glow, indicating defogger operation.

On Pacer models, the feed wire is connected to the right side (passenger side) of the window and the ground connection is on the left side (driver side) of the window (fig. 3U-4).

**FUSIBLE LINK REPLACE WITH
HYPALON INSULATED 16 GAUGE
COPPER WIRE ONLY**

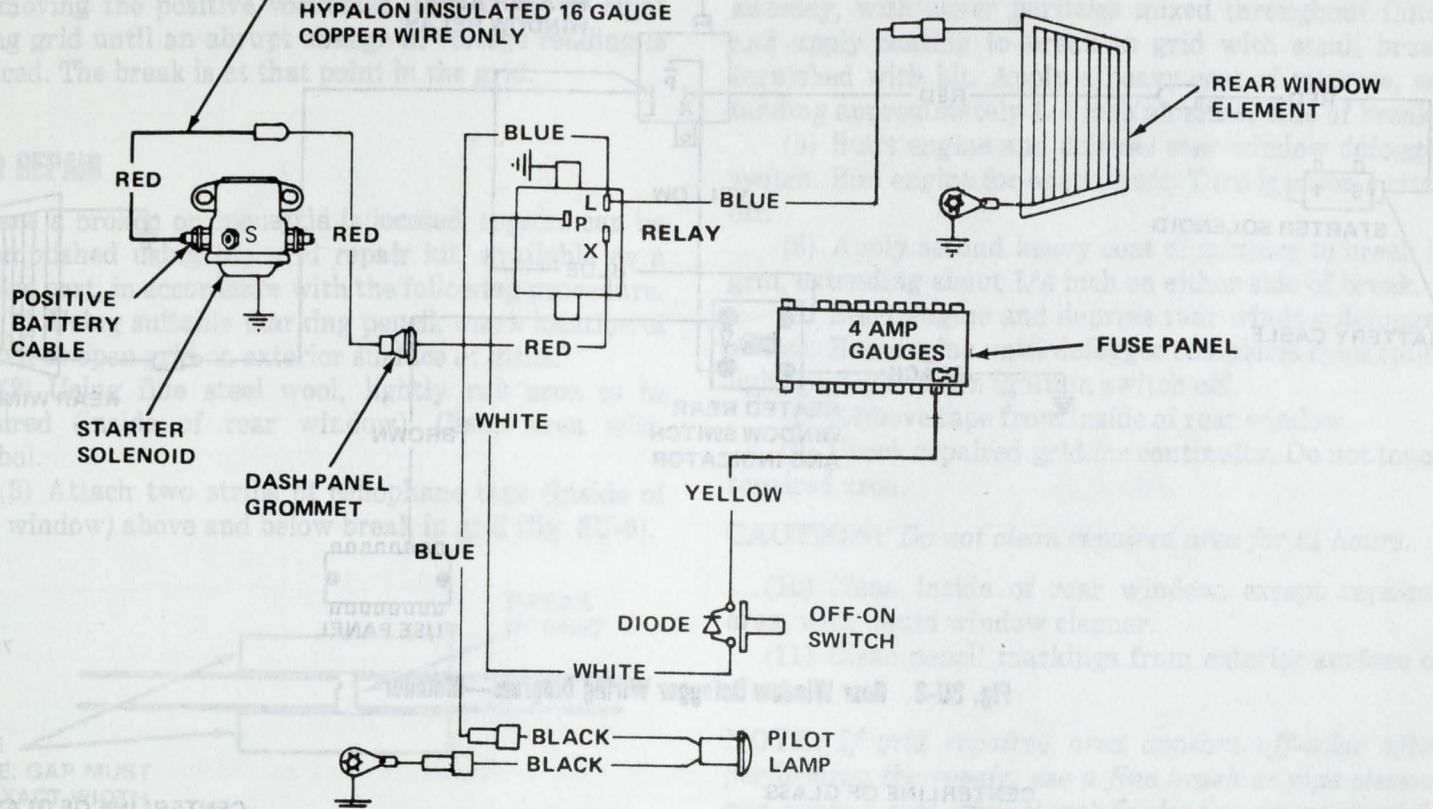


Fig. 3U-1 Rear Window Defogger Wiring Diagram—Pacer

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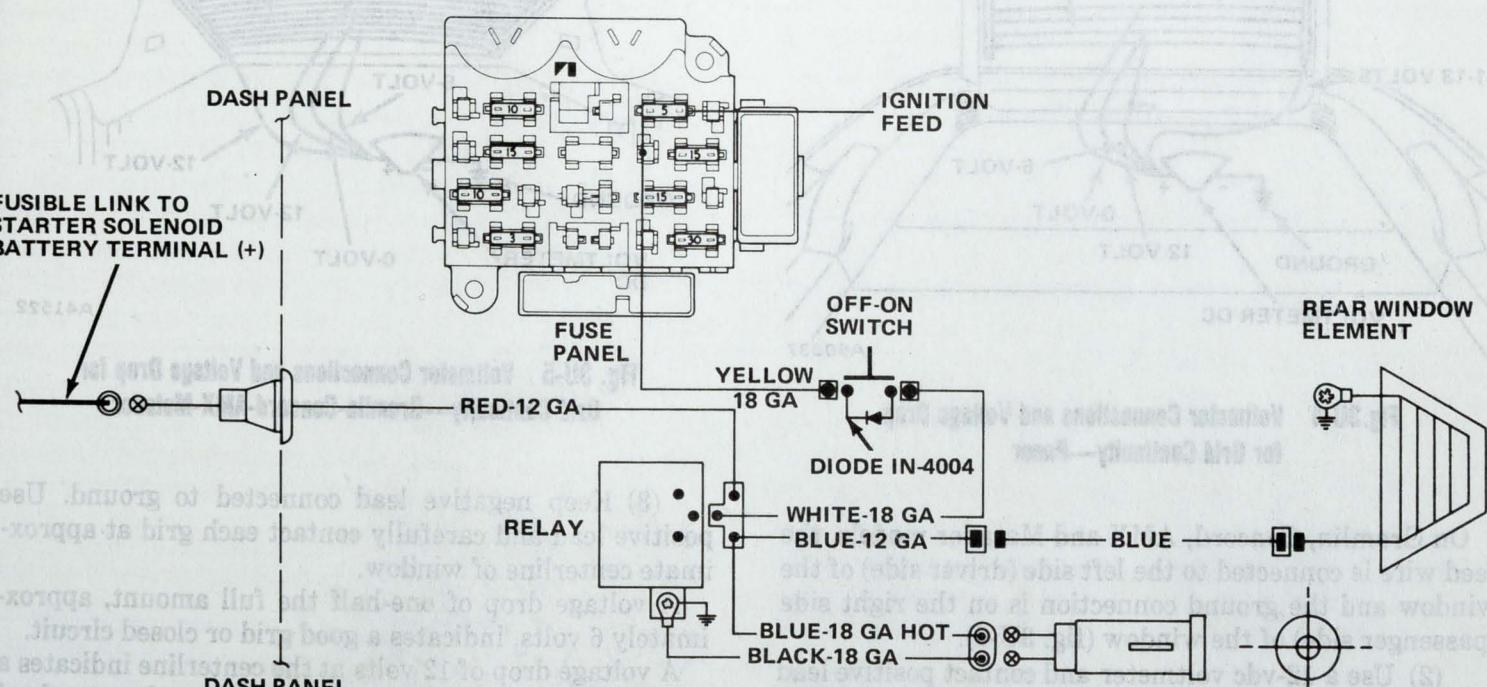


Fig. 3U-2 Rear Window Defogger Wiring Diagram—Gremlin-Concord-AMX

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3U-4 REAR WINDOW DEFOGGERS

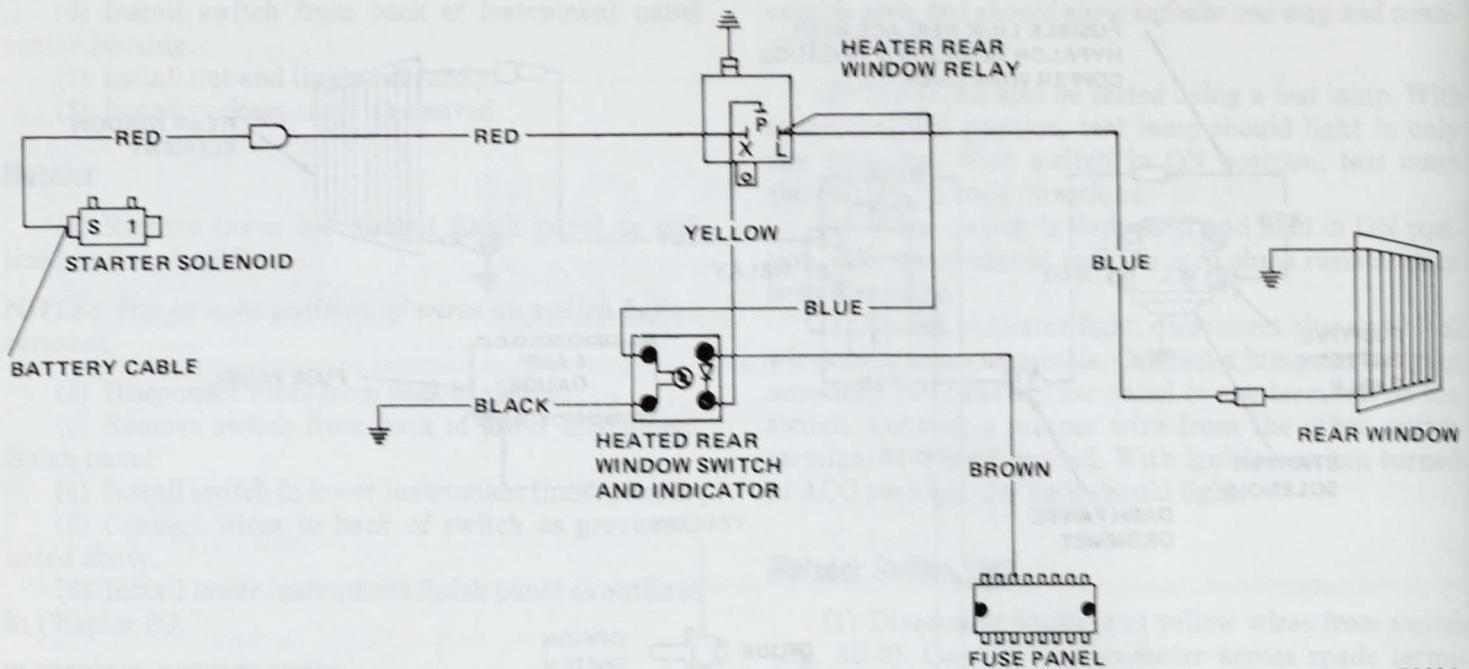


Fig. 3U-3 Rear Window Defogger Wiring Diagram—Matador

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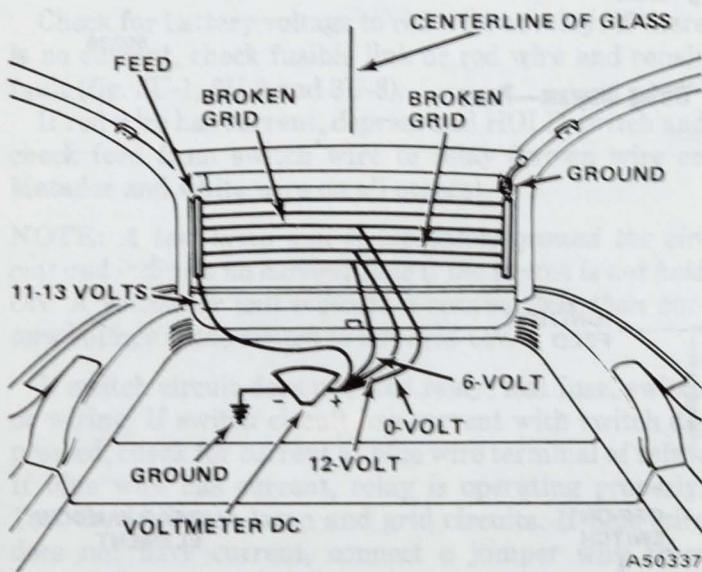


Fig. 3U-4 Voltmeter Connections and Voltage Drop for Grid Continuity—Pacer

On Gremlin, Concord, AMX and Matador models, the feed wire is connected to the left side (driver side) of the window and the ground connection is on the right side (passenger side) of the window (fig. 3U-5).

(2) Use a 12-vdc voltmeter and contact positive lead of voltmeter to feed side vertical bus element on inside surface of glass and contact negative lead to ground side bus element. Voltage drop indicated on meter should be 11 to 13 volts. Connect negative lead of voltmeter to a good ground; meter reading should remain the same.

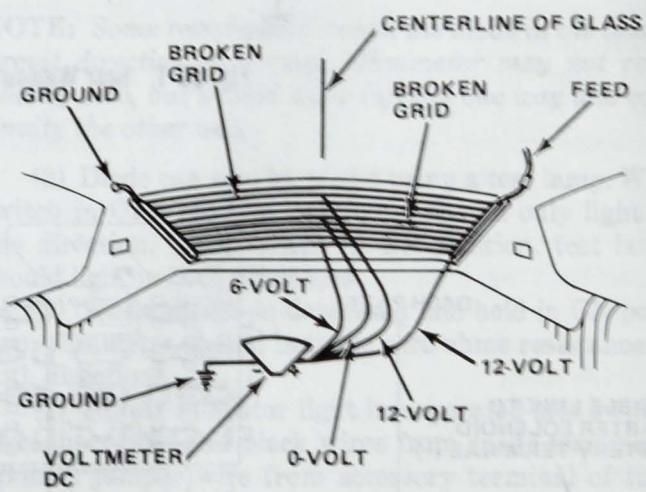


Fig. 3U-5 Voltmeter Connections and Voltage Drop for Grid Continuity—Gremlin-Concord-AMX-Matador

(3) Keep negative lead connected to ground. Use positive lead and carefully contact each grid at approximate centerline of window.

A voltage drop of one-half the full amount, approximately 6 volts, indicates a good grid or closed circuit.

A voltage drop of 12 volts at the centerline indicates a break in the grid between the positive voltmeter lead and ground.

No voltage drop (0 volts) at the centerline indicates a break in the grid between the centerline and the voltage source or feed.

The exact location of the break then can be pinpointed by moving the positive voltmeter lead to left or right along grid until an abrupt change in voltage reading is noticed. The break is at that point in the grid.

GRID REPAIR

Once a broken or open grid is located, repairs can be accomplished using the grid repair kit, available as a service part, in accordance with the following procedure.

(1) Using suitable marking pencil, mark location of broken or open grid on exterior surface of glass.

(2) Using fine steel wool, lightly rub area to be repaired (inside of rear window). Clean area with alcohol.

(3) Attach two strips of cellophane tape (inside of rear window) above and below break in grid (fig. 3U-6).

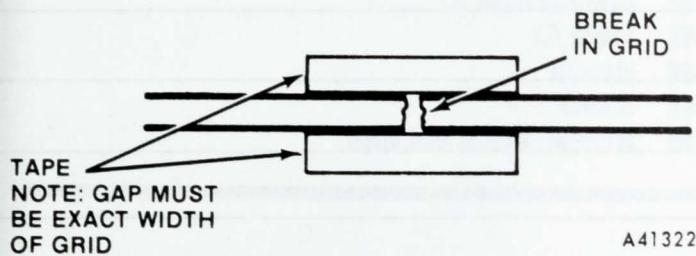


Fig. 3U-6 Rear Window Defogger Grid Repair

(4) Mix repair coating until it is uniform in consistency, with silver particles mixed throughout fluid, and apply coating to break in grid with small brush furnished with kit. Apply a heavy coat of mixture, extending approximately 1/4 inch on either side of break.

(5) Start engine and depress rear window defogger switch. Run engine for one minute. Turn ignition switch off.

(6) Apply second heavy coat of mixture to break in grid, extending about 1/4 inch on either side of break.

(7) Start engine and depress rear window defogger switch. Run engine until defogger completes cycle (pilot light goes off). Turn ignition switch off.

(8) Remove tape from inside of rear window.

(9) Check repaired grid for continuity. Do not touch repaired area.

CAUTION: Do not clean repaired area for 24 hours.

(10) Clean inside of rear window, except repaired area, with liquid window cleaner.

(11) Clean pencil markings from exterior surface of glass.

NOTE: If grid repaired area appears off-color after performing the repair, use a fine brush or pipe cleaner and apply a coat of tincture of iodine on approximately one inch on either side of the repaired area. Allow iodine to dry for about thirty seconds and carefully wipe off excess with lint free cloth.

NOTES

NOTES *Notes and comments on the main points raised will be included near the end of each section and in footnotes at the bottom of each page.*

For example, if you are writing a report of this page to reflect a
need to obtain a specific type of information, you may want to include a
section that discusses how you obtained the information. This section may also include a
description of the sources used to obtain the information.

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For more information about the study, please contact the study coordinator at 1-800-458-6232.

RADIO SOUND SYSTEMS

3V

SECTION INDEX

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General	3V-1	Specifications	3V-15
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GENERAL

All radios are transistorized with pushbutton tuning and have an output impedance of 3.2 ohms. They operate with the ignition switch in the ON or ACCESSORY positions. All models use non-adjustable, whip-style antennas, but antennas used with Citizen Band (CB) radios are longer than those used with other radios.

Stations may be either preselected using five pushbuttons, or manually tuned. On all radios, the left-hand knob controls power On and Off and volume. The right-hand knob controls station selection. All radios also have adjustment for the bass and treble tone quality.

AM/FM radios have a slide switch to select AM or FM reception and controls for left-right, front-rear speaker balance. During stereo reception, a small indicator light glows. The light is off during FM monaural reception.

In addition to the above features, all CB radios have a switch to change from broadcast band radio listening into the CB receive or transmit mode.

CAUTION: Do not operate the CB radio with the CB antenna disconnected. Radio damage can result.

The radio manufactured date, model and serial number are stamped on the radio case.

Setting the Pushbuttons

To set each pushbutton for automatic tuning, proceed as follows:

- (1) Move car outside building and away from high tension lines.
- (2) Permit radio to warm up for several seconds.

(3) Pull pushbutton out about 1/2 inch to unlock tuner.

(4) Select a station with manual tuning knob.

(5) Push the button in as far as it will go (to lock the tuner) and then release it. This station is now set for automatic tuning.

(6) Follow the same procedure for the remaining buttons.

Radio Polarity

When servicing the radio, the A (power) lead must be connected to the positive side of the power source. If connected to the negative side, the radio will not operate and damage to components will result.

The radio is grounded internally. The Pacer ground return circuit is completed by means of a black wire in the power lead connector. The Gremlin, Concord, AMX and Matador ground return circuit is completed by grounding the radio chassis to the instrument panel. When testing on the bench, a ground jumper wire must be attached between the radio chassis and the negative terminal of a 12-volt battey or power supply to complete the power circuit.

ANTENNA TRIMMER

Antenna trimmer adjustment is necessary to match the car radio circuit to the car antenna. The adjustment always must be made after installation of a radio or antenna, or after any repair to a radio. The adjustment also should be checked whenever radio reception is unsatisfactory.

Adjuster Location

- AM and AM/FM radio: just above the tuning control.
- AM/FM stereo with tape player: in the tape cartridge slot.
- AM/CB and AM/FM/CB: just left of pushbuttons on face plate.

Trimmer Adjustment

The trimmer adjustment should be made when the radio is tuned to a very weak station. It is not necessary to be able to receive an understandable station. The object is to obtain the greatest volume while the volume control is at a medium setting.

- (1) Switch radio to the AM broadcast band.
- (2) Turn on radio and allow to warm up for several seconds.
- (3) Turn station control knob to 1400 KC range and obtain a radio station signal. Turn to medium volume.
- (4) On AM and AM/FM radios, remove inner and outer station tuning control knobs (radios without tape player). On AM/FM/Tape radios, open tape door. On AM/CB or AM/FM/CB radio the AM adjustment is on the face of the radio. The CB adjustment procedure is found in the Tuning CB Antenna Splitterbox section.
- (5) Engage a small screw head with standard screwdriver.
- (6) Turn screw left or right until the greatest volume can be obtained **without touching the volume control**.
- (7) Install inner and outer tuning control knobs, if removed.

CONTROLS

AM Radio

The AM radio has one dash-mounted speaker as standard equipment. When equipped with optional rear speaker(s), the rear speaker fader control is installed behind the manual station tuning control (fig. 3V-1).

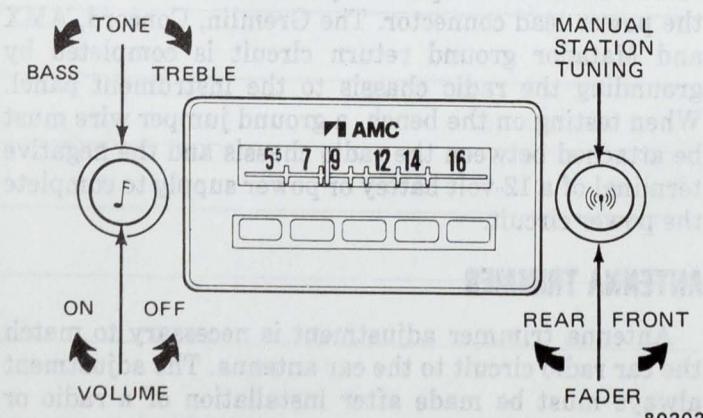


Fig. 3V-1 AM Radio Controls

The dial bulb on the Gremlin, Concord and AMX is controlled by the on-off switch; therefore, the bulb has no brilliance control. Brilliance of the Pacer and Matador radio bulb is controlled by the headlamp switch rheostat which controls panel lighting.

AM/FM Multiplex Radio

All models have four-speaker systems, one speaker in each front door with rear speakers mounted in the rear trim panels or rear window shelf.

The radio has external fader and balance controls (fig. 3V-2). An indicator light will come on whenever the radio is receiving a stereo signal.

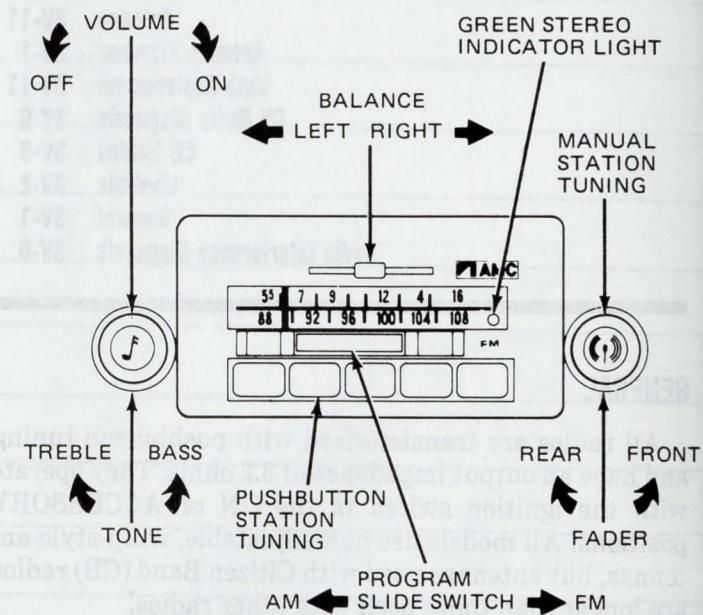


Fig. 3V-2 AM/FM/ Stereo Radio Controls

AM/FM Multiplex Tape Radio

The AM/FM multiplex radio has a built-in, 8-track stereo tape player (fig. 3V-3). AM or FM program selection is made by moving the slide switch (located on the right of the dial face) up or down for the desired programming. Left to right balance has been preset for equal balance and should not require any adjustment. However, should it become necessary to adjust for left-to-right balance, the balance control is located in the tape cartridge slot and is adjustable with a small screwdriver (fig. 3V-4).

Tape Player Operation

To operate the tape player, place the tape cartridge, open tape end first and labeled side up, in the slot and push in until it is firmly seated. The unit will play the selection on the inserted tape.

To manually change selections, push in and release the left-hand volume control. Each program track will

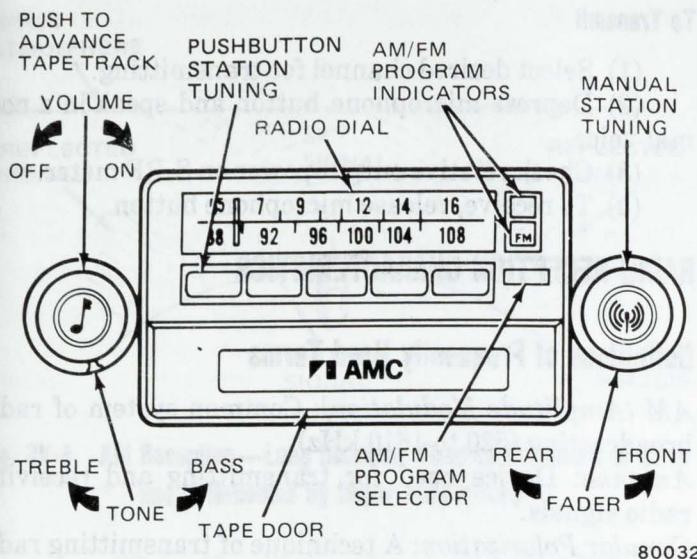


Fig. 3V-3 AM/FM Multiplex Tape Radio

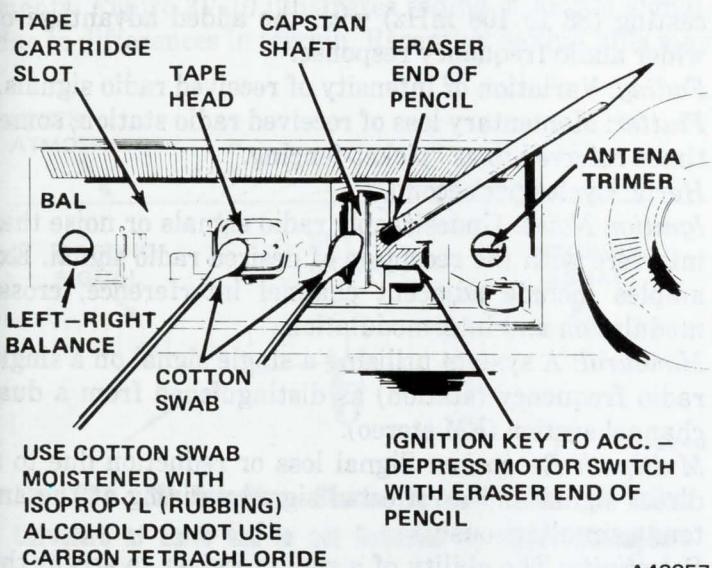


Fig. 3V-4 Tape Head and Capstan Cleaning Procedure

automatically change and play in succession without pushing control.

To turn the tape player off, pull the tape cartridge out approximately one inch.

Stereo Test Tape

A Stereo Test Tape Cartridge J-22683-01 is available for checking the operation of the tape player. This tape provides a means of checking the player for proper tape speed, crosstalk and sound. Follow the instructions on the tape cartridge.

Tape Head and Capstan Cleaning

One major cause of improper tape player operation is oxide buildup on the head. During normal operation, iron oxide particles are loosened from the tape and built

up on the head. This accumulation of oxide can cause poor playback and some up and down tape travel. The head and drive capstan should be cleaned whenever the unit is serviced, or when poor playback or tape travel is noted.

Cleaning may be done either in the car or on a service bench. To clean the head, use a cotton swab moistened with commercially available tape head cleaner or isopropyl alcohol. Wipe capstan and tape head dry (fig. 3V-4). If a commercial tape head cleaner is used, follow the manufacturer's recommended cleaning procedure.

CB RADIOS

CB Radio Controls

Refer to figures 3V-5 through 3V-7.

- **S-RF Meter:** indicates output power when trans-

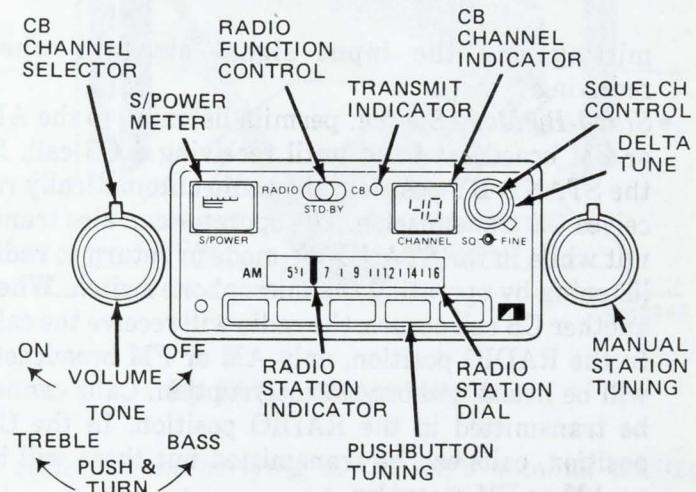


Fig. 3V-5 AM/CB Radio Controls

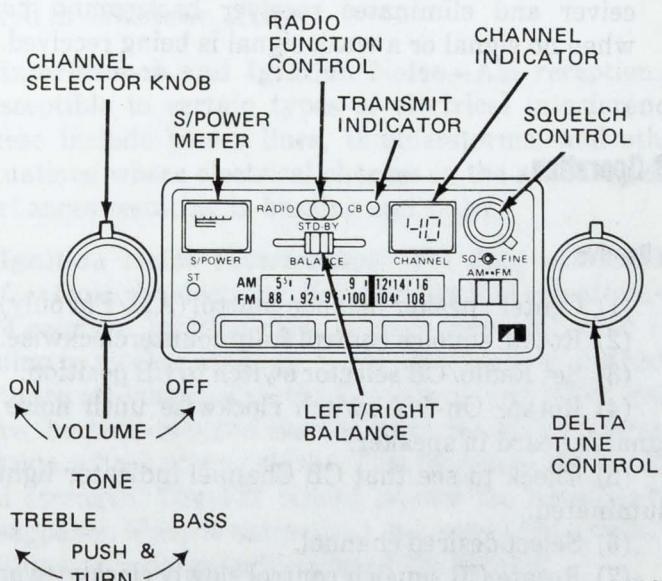


Fig. 3V-6 AM/FM/CB Radio—CB Controls

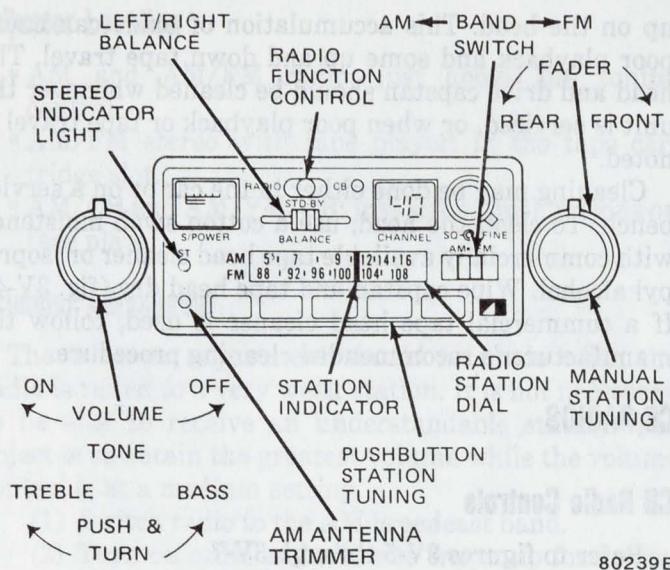


Fig. 3V-7 AM/FM/CB Radio—AM/FM/Controls

mitting and the input signal strength when receiving.

- **Stand-By Mode Switch:** permits listening to the AM or FM broadcast band until receiving a CB call. In the STAND-BY position, the radio automatically receives CB transmission. The operator can also transmit while in the STAND-BY mode or return to radio listening by operating the microphone switch. When another CB call occurs, the radio will receive the call. In the RADIO position, only AM or FM broadcasts will be heard without CB interruption. Calls cannot be transmitted in the RADIO position. In the CB position, calls can be transmitted but there will be no AM or FM reception.
- **Delta Tune Control:** aligns receiving set with a set that is transmitting slightly off frequency.
- **Squelch Control:** affects the sensitivity of the receiver and eliminates receiver background noise when no signal or a weak signal is being received.

CB Operation

To Receive

- (1) Center speaker balance control (AM/FM only).
- (2) Rotate squelch control fully counterclockwise.
- (3) Set Radio/CB selector switch to CB position.
- (4) Rotate On-Off switch clockwise until noise or signal is heard in speaker.
- (5) Check to see that CB Channel indicator light is illuminated.
- (6) Select desired channel.
- (7) Rotate CB squelch control slowly clockwise until background noise just disappears. Do not advance control too far as weaker signals will not be heard.

To Transmit

- (1) Select desired channel for transmitting.
- (2) Depress microphone button and speak in a normal voice.
- (3) Check relative output power on S-RF meter.
- (4) To receive, release microphone button.

RADIO RECEPTION CHARACTERISTICS

Definitions of Frequently Used Terms

AM (Amplitude Modulation): Common system of radio broadcasting (520 to 1610 kHz).

Antenna: Device used for transmitting and receiving radio signals.

Circular Polarization: A technique of transmitting radio signals to minimize the effects of fading.

Distortion: False reproduction of the original transmitted signal.

FM (Frequency Modulation): System of radio broadcasting (88 to 108 mHz) with the added advantage of wider audio frequency response.

Fading: Variation of intensity of received radio signals.

Flutter: Momentary loss of received radio station, sometimes referred to as "picket-fencing."

Hertz: Cycles per second.

Ignition Noise: Undesirable radio signals or noise that interfere with the reception of desired radio signal. Examples include adjacent channel interference, cross-modulation and intermodulation.

Monaural: A system utilizing a single signal on a single radio frequency (station) as distinguished from a dual channel system (FM stereo).

Multipath Reception: Signal loss or reduction due to a direct signal and a reflected signal arriving at the antenna simultaneously.

Selectivity: The ability of a radio receiver to accept the signal of one station while rejecting signals of undesirable adjacent stations.

Sensitivity: The ability of the radio receiver to receive weak stations.

AM and FM Reception

The following is a brief explanation of AM and FM reception characteristics.

Signal Transmission—the range of normal hearing is approximately 30 Hz (cycles per second) to 14,000 Hz. AM has a range of 50 to 5000 Hz. On the other hand, FM covers the entire range of normal hearing. Both AM and FM are received on a regular radio as a monaural signal.

FM/Stereo receivers are capable of receiving both monaural and FM stereophonic broadcasts. These broadcasts are sometimes referred to as multiplex.

Fading—Fading is not usually a problem with AM because of its long distance reception capability (fig. 3V-8). FM, on the other hand, is limited to line-of-sight

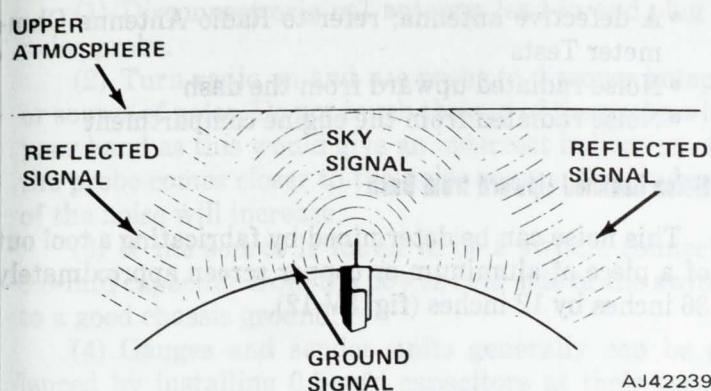


Fig. 3V-8 AM Reception—Long Distance, Follows Curvature of Earth and is Reflected by Upper Atmosphere

reception (25 to 40 miles) under average conditions of terrain and transmitted power (fig. 3V-9). The area of good FM-Stereo reception may even be slightly less than that of regular FM because of stronger signal requirements. Figure 3V-10 illustrates fading of an FM signal due to differences in terrain. Reception behind hills may

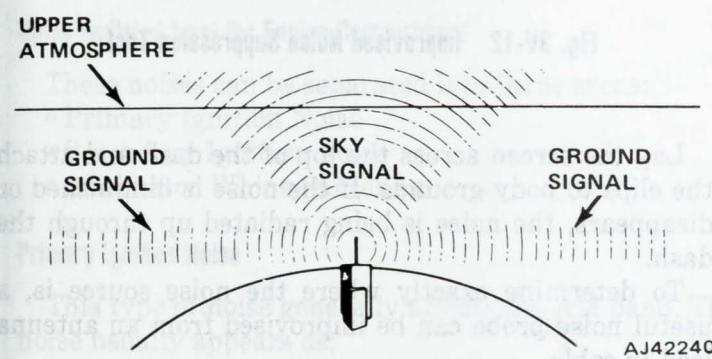


Fig. 3V-9 FM Reception—Shorter Distance, Does Not Follow Curvature of Earth and Is not Reflected by Upper Atmosphere

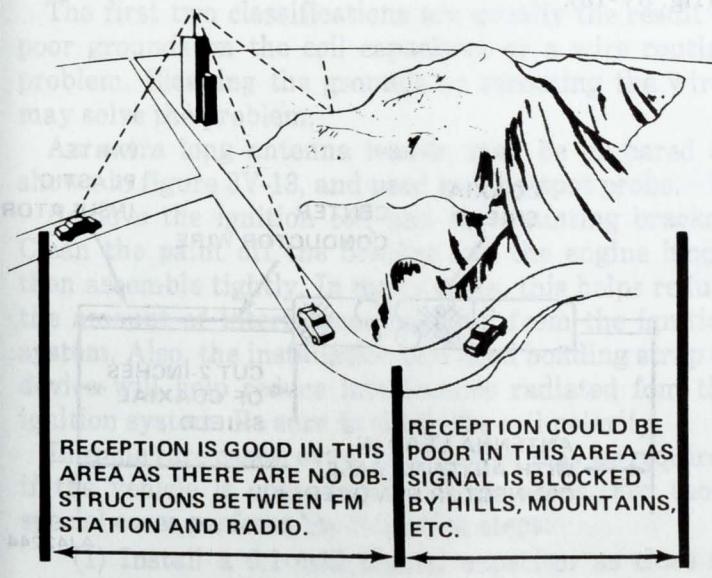


Fig. 3V-10 FM Fading

be noisy (hissing or popping). This noisy reception is sometimes referred to as flutter or "picket fencing."

Flutter is produced in the fringe area when objects come between the station and the receiver. The signal will be lost momentarily then it will return. The rate which the flutter occurs is dependent upon the car's speed in passing objects. The effect is very similar to the way a television set flutters in the fringe area when an airplane passes between it and the station.

Multipath Reception—The fact that FM can be received quite well between tall buildings can unfortunately cause a detrimental side effect, namely multipath reception (fig. 3V-11). It is caused by a direct signal and

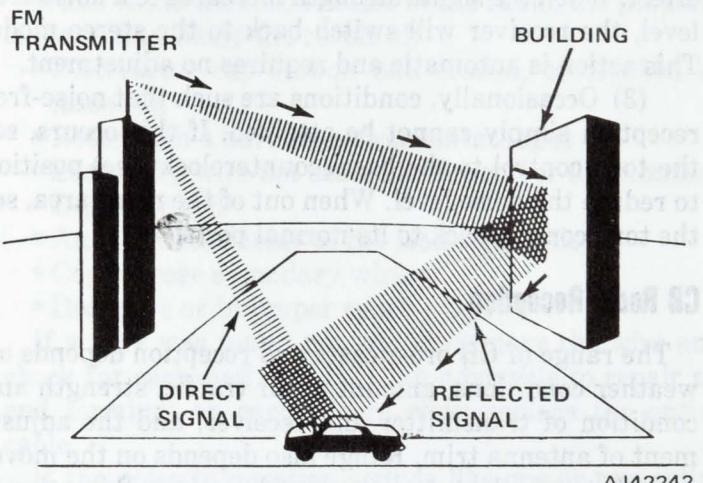


Fig. 3V-11 Multipath Reception

a reflected one arriving at the car's antenna causing distortion, partial or complete loss of the station, or poor FM-Stereo reception. This type of interference is usually of short duration since the area of interference is usually only a few inches or feet across. It is mostly encountered in downtown areas.

Interference and Ignition Noise—AM reception is susceptible to certain types of electrical interference. These include power lines, thunderstorms, and other situations where electrical charges in the air cause disturbances resulting in buzzing and static.

Ignition Noise Interference—FM does not usually suffer from the electrical disturbances that can affect an AM receiver. Ignition noise is more prevalent when listening to weaker stations. Noise also occurs if the radio is tuned off-station slightly. To improve reception, make sure the radio is tuned exactly to the station or tune to a station with a strong signal. This increases station signal strength. The FM circuit rejects the noise and it disappears. Noise is not noticed in metropolitan areas or within approximately 25 miles of the station.

Other FM Interference—Occasionally, when listening to a station while driving in the vicinity of another

station (especially one with a strong signal), the possibility of receiving both stations simultaneously can exist. The phenomenon is called adjacent channel interference or cross-modulation.

Using Controls Effectively—Proper use of radio controls will enhance listening pleasure.

(1) Always fine-tune radio manually for clearest sound and minimum noise.

(2) Weak FM stereo signals are inherently noisier than monaural ones when received on an FM stereo radio. To prevent this type of noise from being heard, the FM Stereo radio automatically switches from stereo to the monaural mode. The Stereo-Indicator light goes out; both speakers still operate but without the stereo effect. When the signal strength increases to a noise-free level, the receiver will switch back to the stereo mode. This action is automatic and requires no adjustment.

(3) Occasionally, conditions are such that noise-free reception simply cannot be attained. If this occurs, set the tone control to the bass (counterclockwise) position to reduce the noise level. When out of the noisy area, set the tone control back to its normal position.

CB Radio Reception

The range of CB broadcasts and reception depends on weather conditions, amount of air traffic, strength and condition of transmitter and receiver, and the adjustment of antenna trim. Range also depends on the movement between the transmitter and receiver. Reception is clearer in open spaces with little air traffic than in congested metropolitan areas. Hilly terrain may also affect operation. Electrical interference affects reception similar to AM broadcasts. Snow, ice or freezing rain on the antenna hampers reception.

Reception and voices should not be fuzzy or screechy unless the network is congested or equipment is maladjusted or malfunctioning.

RADIO INTERFERENCE DIAGNOSIS

General

The object of this diagnosis is to present a systematic approach to troubleshooting interference (noise) problems. First, determine if the noise is normal by referring to Radio Reception Characteristics. If the noise is abnormal, the following procedures outline methods of determining interference point of entry and elimination.

There are two major ways interference enters the radio—the antenna and the A-line or power feed wire to the radio.

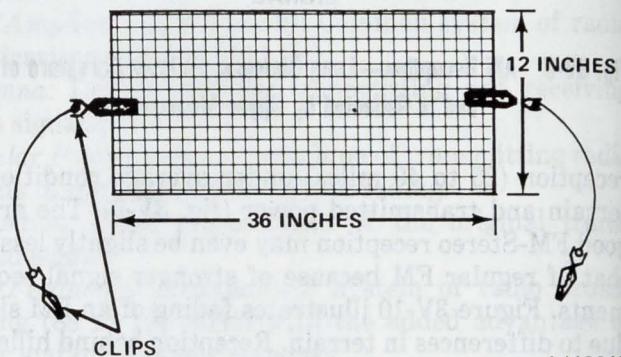
Interference Entry—Antenna

Disconnect the antenna. If this causes the noise to stop, the problem is reduced to three possibilities:

- A defective antenna; refer to Radio Antenna Ohm-meter Tests
- Noise radiated upward from the dash
- Noise radiated from the engine compartment

Noise Radiated Upward from Dash

This noise can be determined by fabricating a tool out of a piece of aluminum or copper screen approximately 36 inches by 12 inches (fig. 3V-12).



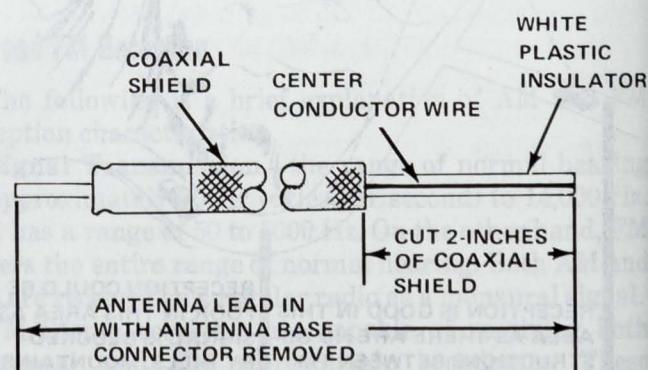
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Fig. 3V-12 Improvised Noise Suppression Tool

Lay the screen across the top of the dash and attach the clips to body grounds. If the noise is diminished or disappears, the noise is being radiated up through the dash.

To determine exactly where the noise source is, a useful noise probe can be improvised from an antenna lead-in cable.

To make the probe, cut or remove the lead-in from the antenna at the antenna, remove approximately 2 inches of the outer plastic covering and the woven wire shield (fig. 3V-13).



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Fig. 3V-13 Noise Probe Fabrication

(1) Disconnect original antenna lead-in and plug in noise probe.

(2) Turn radio on and use probe to discover hotspot or source of noise. Do not touch the end of the probe with your hand as this would give an incorrect indication. As the probe comes closer to the noise source, the loudness of the noise will increase.

(3) If the source is found to be a switch, connect a 0.5-mfd capacitor from the power feed side of the switch to a good chassis ground.

(4) Gauges and sender units generally can be silenced by installing 0.5-mfd capacitors at their terminals. Install a 0.5-mfd capacitor at the battery terminal of the CVR or a 0.1-mfd, radio-type capacitor directly across the CVR terminals.

(5) If the source is found to be a wire, reroute the wire, or wrap a piece of wire screen around the wire or wire harness and attach one or more ground leads to the wire screen. It also may be possible to screen off the area found to be radiating noise and ground the screen.

(6) If the noise is found to be an electric motor, install a 0.25-mfd coaxial (feed-through) capacitor in series with the motor.

Noise Radiated from the Engine Compartment

These noises can be separated into three areas:

- Primary Ignition Noise
- Secondary Ignition Noise
- Alternator Whine (Antenna)

Primary Ignition Noise

This type of noise generally affects the AM band. The noise usually appears as:

- Frequency varying with engine rpm
- Loudness varying with engine rpm
- Stops instantly when the ignition is turned to the OFF position and turned to ACC position

The first two classifications are usually the result of poor grounds on the coil capacitors or a wire routing problem. Cleaning the grounds or rerouting the wires may solve the problem.

An extra long antenna lead-in may be prepared as shown in figure 3V-13, and used as a hotspot probe.

Remove the ignition coil and its mounting bracket. Clean the paint off the bracket and the engine block, then assemble tightly. In many cases, this helps reduce the amount of interference radiated from the ignition system. Also, the installation of a hood bonding strap or device will help reduce interference radiated from the ignition system. Be sure to check the coil polarity.

In some rare cases, extra suppression may be required if the vehicle is operating in fringe areas. For those special cases perform the following steps:

(1) Install a 0.1-mfd coaxial capacitor as close as possible to the coil battery terminal, not the distributor terminal. Do not use an ordinary bypass capacitor.

(2) Install a 0.005-mfd, 1000-volt ceramic disc capacitor at the coil distributor terminal.

(3) Install a 0.5-mfd coaxial capacitor at the alternator output terminal. Be sure it is rated to handle the maximum alternator voltage.

Secondary Ignition Noise

Secondary ignition noise will always affect FM and, if severe enough, may also affect AM. Normally one of two conditions will be found in the radio.

- Ignition noise all across FM band (and possible on AM)
- Ignition noise (loud) in between stations but not on a strong station

When these conditions exist in the radio, the problem is more than likely the result of:

- Distributor cap carbon ball eroded, or cracked or loose cap
- Rotor with a burned carbon contact spot
- Secondary wire not seated in the coil or distributor
- Defective coil
- An oil film on some of the lead terminals
- Copper core secondary wiring
- Defective or improper spark plugs

If a wire was found not seated, remove the wire and check for carboned end. It is not advisable to repair an end terminal on carbon core wire; replace the entire cable.

If the noise in question sounds like one or two cylinders and definitely not all of them, then the problem is after the coil. Using the fabricated noise probe, which plugs into the radio, have someone sit in the vehicle and listen to the radio. Move the probe from plug to plug. The person in the car should notice an appreciable increase in the plug noise when the defective plug is reached.

Install resistor spark plugs when experiencing spark plug noise. If the car has copper core secondary wiring, these wires should be replaced with original equipment, carbon-core resistor wires.

Alternator Whine (Antenna)

Alternator whine can be described as an annoying, high-pitched whistle, or a siren-type sound that increases and decreases with engine rpm.

Methods of eliminating alternator whine and engine interference noise:

- (1) Install front fender ground straps.
- (2) Install hood bonding strap or device.
- (3) Run offending wire through a shielded (grounded) cable.
- (4) Clean slip rings and be sure the brushes are making good contact.

A-Line (Power Feed Wire to Radio)

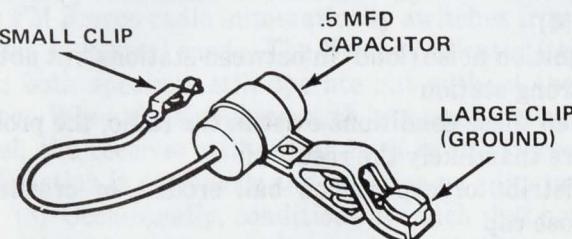
If disconnecting the antenna did not eliminate radio

noise, the noise is probably on the A-line.

Motor noise on the A-line is usually the result of voltage spikes on this line being so large that the input filter circuit in the radio cannot handle them. There are two ways to handle this problem:

- (1) Locate the cause of line noise and eliminate it.
- (2) Add external filters to reduce the spikes to a point where the radio filter can handle the spikes.

A grounded capacitor touched to all hot electrical connections will often identify the offenders (fig. 3V-14).



AJ42249

Fig. 3V-14 Interference Eliminator Test Device

The fabricated antenna probe (fig. 3V-13) also can be used to find hotspots.

In general, any adjacent metal parts which are separated by mastic or paint must be connected together electrically.

Effective bonding requires more than physically clean surfaces and self-tapping screws. Tooth-type lockwashers must be used to cut into the surface layers of metal. Grounding straps must be as short and as heavy as possible.

A-line noise is normally the result of:

- Alternator whine (A-line)
- Wiring harness too close to ignition wiring
- Radio noise suppressor
- Poor radio grounding

Alternator Whine (A-Line)

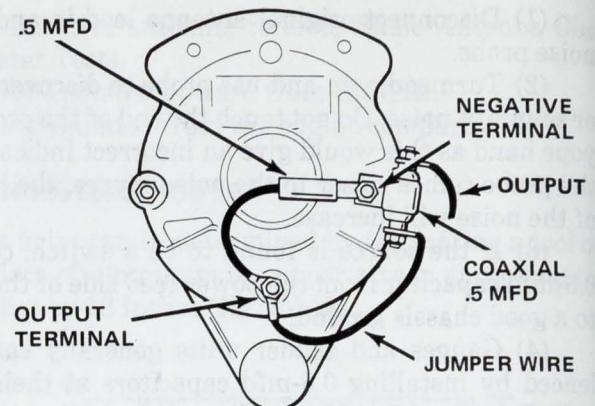
Alternator whine does not stop instantly when the key is turned quickly to the accessory position at fast idle. It is a high pitched whine which increases with rpm. Correct alternator whine as follows:

- (1) Install a 0.5 to 2.0 mfd bypass capacitor from the alternator output terminal to ground (fig. 3V-15).
- (2) Install a coaxial capacitor in alternator output wire (fig. 3V-15).
- (3) Replace alternator diodes.

Wiring Harness Close to Ignition Wiring

Noise carried to the radio normally can be corrected as follows:

- (1) Relocate harness wiring away from ignition wires.
- (2) Install 0.5-mfd capacitors on each fuse panel lead. Be sure capacitor is grounded.

**Fig. 3V-15 Alternator Noise Suppression**

Instrument Cluster Radio Noise Suppressor

A noise suppressor is installed on every car equipped with a radio. This suppressor (choke) is plugged into the back of the cluster on a printed circuit board. Be sure the choke has not been installed over the copper strip installed on vehicles not originally equipped with a radio.

Tap on the instrument panel with the ignition in the ON position and the ACC position to activate the CVR point movement. If noise only occurs in the ON position, repair noise suppressor as follows:

- (1) Remove radio choke.
- (2) Remove plastic covering.
- (3) Unsolder one end of coil wire and remove approximately 6-1/2 inches (16.3 cm) of wire.
- (4) Resolder wire end.
- (5) Wrap coil with several turns of plastic electrical tape and install choke.

Poor Radio Ground

To check for a poor ground, attach a jumper wire to the radio case and connect to a good chassis ground. If there is no change in radio noise, the radio has a good ground.

If noise changed, check for loose mounting screws and a poor ground.

Other Sources of Interference

Speaker Leads

To determine if speaker leads are inducing or picking up noise, lay the wires on top of the carpet with the wires separated. If the noise is gone, the harness is at fault. Perform one or more of the following:

- (1) Separate coil wires by installing a loom over each of the wires.
- (2) Install a 0.001-mfd, thumbnail-type capacitor across each speaker.
- (3) Remove ground wire from harness and ground each rear speaker at the rear of vehicle.

Speaker-induced noise will normally not occur on

front-mounted instrument panel speaker systems. It is more apt to occur on four-speaker systems and when the fader control is in the mid-position.

Defective Radio

Exchange with a known good radio to determine if the radio is defective.

Direct Entry Into the Radio

- (1) Be sure radio has a good ground.
- (2) Tighten all radio chassis screws.

Wheel and Tire Static

Wheel static is another source of interference. This is a running noise most likely to be encountered when the car is in motion on a hard, dry-surfaced road. The noise will remain when the car is coasting with the engine and all electrical equipment turned off. The static occurs in the front wheels due to insulating film produced by the lubricant in the wheel bearings.

In some instances, static discharges take place between the tire and the road surface. An anti-static powder kit is available from radio supply houses which applies conducting material to the inside surface of the tire to eliminate noise from this source. Tire static can be checked by washing the tire with water. The water provides a conduction path to ground for the discharges. Tire static is most likely to be encountered during hot, dry seasons.

Turn Signals and Stop Lamps

The turn signal flasher and the switch in the stop lamp circuit may cause popping noises in the radio. In most cases, the noises are interference due to arcing in the contacts. The correction is a 0.5-mfd bypass capacitor installed at the battery connection of the switch or the flasher. It is less likely, but possible, that the low frequency components of the interruptions are reaching audio stages of the radio. The test is to check if the noise is present with the volume control turned down. If so, install a 1,000-mfd condenser.

Horn Noise

The diagnosis and cure for a growling noise in the radio when the horn is operated is the same as for Turn and Stop Signals detailed above. The suppressor capaci-

tors are installed at the point where the battery lead feeds the horn relay.

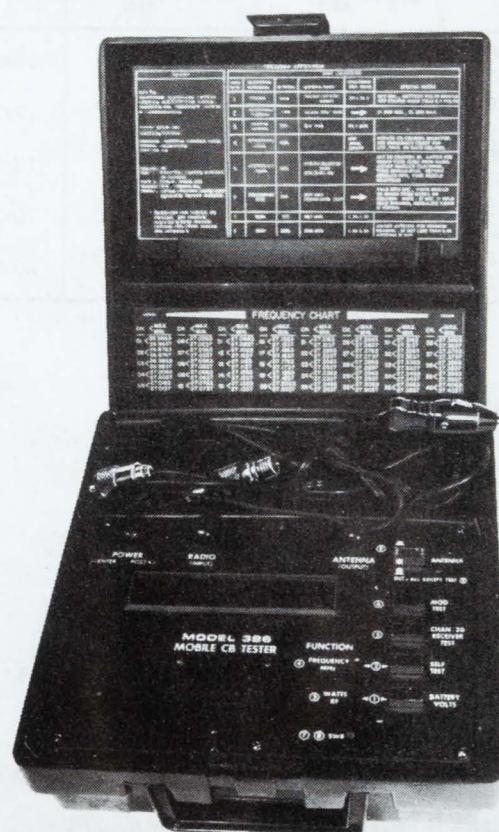
Be sure the horn relay cover is not loose.

Accessories

Electric windshield wipers, blower motors, window regulator motors, or any brush-type motors, generally can be suppressed by installing 0.25-mfd capacitors at the terminals.

CB RADIO DIAGNOSIS

For possible CB radio problems, refer to *CB Radio Reception* to determine if the condition is normal. If problem still exists, use CB Radio test instruments (fig. 3V-16) to diagnose trouble.



MOBILE CB TESTER

80669

Fig. 3V-16 Amserv AMX 386S Mobile CB Tester

Operating Instructions for Amserv AMX 386S Mobile CB Tester

NOTES	
CAUTION: Do not key microphone without antenna connected or antenna button in int. position if antenna is not connected.	
RADIO UNDER TEST CONTROL SETTINGS Squelch — Minimum (audible noise) Volume — Mid-Range Channel — 2	
FAILURE OF — Test 1 — Probable Faulty Battery or Harness Test 2,7 — Faulty Model 386S Tests 3 to 6 — Faulty CB Test 8 — After antenna adjustment indicates faulty antenna.	
* Limits set for typical CB systems. See specific manufacturers specifications for other radio's and antenna's.	

TEST PROCEDURE					
Test Step	Function Setting	Antenna	Instructions	*Readings Min.-Max.	Special Notes
1	Watts	Int.	Press-Battery Volts	12.0-16.0	Key mic., battery volts should not change more than 0.5 volts.
2	Frequency MHZ	Int.	Press-Self Test	→ 27,2035 min., 27,2065 max.	
3	Watts RF	Int.	Key Mic.	03.0 Min.	
4	Frequency MHZ	Int.	Key Mic.	See Freq. Chart	Rotate CB channel selector. See frequency chart for min./max. on each channel.
5	Frequency MHZ	Int.	Press-Receiver Test (Channel 20)	→ Set to channel 20. Listen for clear tone (1kHz) from radio. Adjust squelch clockwise, tone should reappear.	
6	Frequency MHZ	Int.	Key Mic. Press-Mod. Test	→ Talk into mic., voice should be heard from Model 386 speaker. Note - if mic. is held near speaker, squealing sound is normal.	
7	SWR	Int.	Key Mic.	1.00-1.20	
8	SWR	Ext.	Key Mic.	1.00-3.50	Adjust antenna for minimum reading.

CB RADIO FREQUENCY CHART

CH. < MAX. MIN.	CH. < MAX. MIN.							
01< 26.9663 26.9637	06< 27.0263 27.0237	11< 27.0863 27.0837	16< 27.1563 27.1537	21< 27.2163 27.2137	26< 27.2663 27.2637	31< 27.3163 27.3137	36< 27.3663 27.3637	
02< 26.9763 26.9747	07< 27.0363 27.0337	12< 27.1063 27.1037	17< 27.1663 27.1637	22< 27.2263 27.2237	27< 27.2763 27.2737	32< 27.3263 27.3237	37< 27.3763 27.3737	
03< 26.9863 26.9837	08< 27.0563 27.0537	13< 27.1163 27.1137	18< 27.1763 27.1737	23< 27.2363 27.2337	28< 27.2863 27.2837	33< 27.3363 27.3337	38< 27.3863 27.3837	
04< 27.0063 27.0037	09< 27.0663 27.0637	14< 27.1263 27.1237	19< 27.1863 27.1837	24< 27.2463 27.2437	29< 27.2963 27.2937	34< 27.3463 27.3437	39< 27.3963 27.3937	
05< 27.0163 27.0137	10< 27.0763 27.0737	15< 27.1363 27.1337	20< 27.2063 27.2037	25< 27.2563 27.2537	30< 27.3063 27.3037	35< 27.3563 27.3537	40< 27.4063 27.4037	

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RADIO REPLACEMENT

Pacer

Removal

- (1) Disconnect battery negative cable.
- (2) Remove radio knobs and attaching nuts.
- (3) Remove cluster bezel.
- (4) Remove radio overlay.
- (5) Loosen screw attaching radio to rear support bracket.
- (6) Lift rear of radio to disengage bracket from screw and pull radio forward slightly.
- (7) Disconnect antenna, speaker(s) and power lead.
- (8) Remove radio.

Installation

- (1) Connect radio speaker(s), power lead, and insert antenna lead.

(2) Position radio bracket over rear attaching screw and tighten screw.

(3) Connect battery negative cable.

(4) Check antenna trimmer adjustment.

(5) Install radio overlay.

(6) Install cluster bezel.

(7) Install radio attaching nuts and radio knobs.

(8) Reset clock, if equipped.

Gremlin-Concord-AMX

Removal

- (1) Disconnect battery negative cable.
- (2) Remove package tray, if equipped.
- (3) Remove ash receiver and bracket.
- (4) Remove radio knobs and shaft nuts, and radio bezel if equipped with CB radio.
- (5) On cars equipped with air conditioning, remove instrument panel center housing attaching screws and remove housing.

- (6) Disconnect antenna, speaker(s) and power lead.
- (7) Remove radio.

Installation

- (1) Position radio and connect antenna, speaker(s) and power lead.
- (2) Install instrument panel center housing and attaching screws, if removed.
- (3) Install radio bezel if removed, and shaft nuts and knobs.
- (4) Install ash receiver and bracket.
- (5) Install package tray, if removed.
- (6) Connect battery negative cable.
- (7) Reset clock, if equipped.

Matador

Removal

- (1) Disconnect battery negative cable.
- (2) Remove radio knobs and radio attaching nuts.
- (3) Remove instrument cluster bezel.
- (4) Loosen upper radio attaching screw.
- (5) Lift rear of radio to disengage bracket from screw and pull radio forward slightly.
- (6) Disconnect antenna, speaker(s) and power lead.
- (7) Remove radio.

Installation

- (1) Connect radio speaker(s), power lead and antenna lead.
- (2) Position radio bracket over rear retaining screw.
- (3) Install instrument cluster bezel.
- (4) Connect battery negative cable.
- (5) Check antenna trimmer adjustment.
- (6) Install radio attaching nuts and radio knobs.

BULB REPLACEMENT

AM Radio—All Models

Removal

- (1) Remove radio knobs and attaching nuts.
- (2) Remove the following components:
 - (a) On Pacer, remove radio overlay.
 - (b) On Gremlin-Concord-AMX with air conditioning, remove instrument panel center housing.
 - (c) On Matador, remove instrument cluster bezel.
- (3) Remove dial cover retainers and remove cover.
- (4) Rotate manual tuning control to move pointer to extreme left or right.
- (5) Remove dial light deflector clips and remove deflector.
- (6) Remove bulb and bulb diffuser.

Installation

- (1) Install diffuser on replacement bulb and install bulb.
- (2) Install dial light deflector.
- (3) Install dial cover.
- (4) Install the following components:
 - (a) On Pacer, install radio overlay.
 - (b) On Gremlin-Concord-AMX with air conditioning, install instrument panel center housing.
 - (c) On Matador, install instrument cluster bezel.
- (5) Install radio attaching nuts and knobs.

AM/FM Multiplex Radio or AM/FM Stereo with Tape Player

Removal

- (1) Remove radio knobs, attaching nuts and bezel.
- (2) On Gremlin, Concord and AMX with air conditioning, remove instrument panel center housing and remove radio.
- (3) Pull balance control knob from lever.
- (4) Remove dial cover retainers. Use a screwdriver with a thin blade between the retainer and the plastic dial cover to lift out retainers.

CAUTION: *Do not pry under plastic face.*

- (5) Remove dial light deflector retainers.
- (6) Tip deflector slightly and slip it out from under the pointer.
- (7) Turn station selector to move pointer to the extreme left.
- (8) Remove bulb.
- (9) Remove rubber diffuser from bulb.

Installation

- (1) Install rubber diffuser over bulb.
- (2) Install bulb making sure it is firmly engaged in socket.
- (3) Install light deflector push-in retainers.
- (4) Position dial cover and install retainers.
- (5) Install balance control lever knob.
- (6) On Gremlin, Concord and AMX install instrument panel center housing, if removed.
- (7) Install bezel, radio attaching nuts and knobs.

CB Radios

The dial illumination bulb for CB radios must be replaced by a radio repair shop.

ANTENNA

AM and AM/FM Models

All antennas must have good ground to eliminate

static noises. The mast of the antenna is not grounded except through the radio. The base of the antenna is grounded to the vehicle sheet metal. The coaxial shield (the wire mesh) surrounding the center conductor wire of the antenna lead-in cable is grounded to the radio and the antenna base.

Tests

There are three antenna tests to be made with the use of an ohmmeter:

- Mast to ground
- Tip of mast to tip of conductor
- Body ground to battery ground

Refer to figure 3V-17.

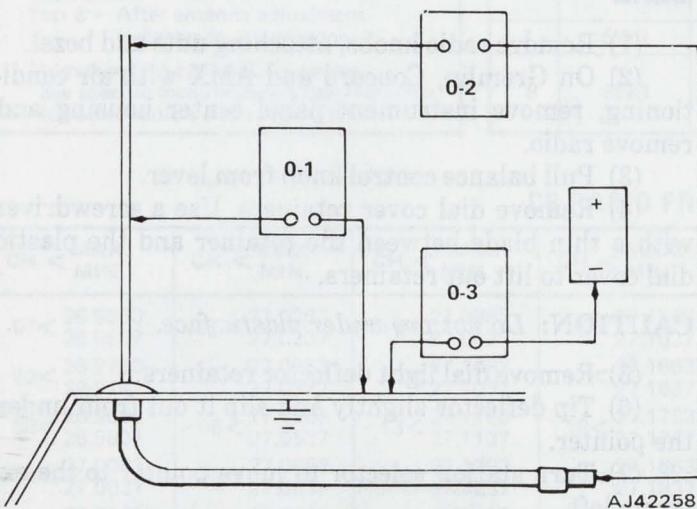


Fig. 3V-17 Antenna Ohmmeter Test

Mast-to-Ground Test

This test verifies that the antenna is making electrical contact with the radio and that the mast is insulated from the base.

(1) Touch one ohmmeter prod to tip of antenna mast and other prod to antenna base (0-1). With antenna installed in radio, there should be continuity (approximately 15 ohms).

(2) Disconnect antenna from radio and repeat step (1). There should not be any continuity with antenna disconnected from radio.

Tip of Mast-to-Tip of Conduct Test

This test verifies that the antenna does not have an open circuit.

(1) Disconnect antenna from radio.

(2) Touch one ohmmeter prod to mast tip and other prod to tip of lead-in (part inserted into the radio) (0-2). There should be continuity (fraction of an ohm).

Body Ground-to-Battery Ground Test

This test verifies that the antenna base has a good ground. Touch one ohmmeter lead to the fender and the remaining prod to the battery negative post (0-3). The resistance should be extremely low (less than one ohm).

AM/CB and AM/FM/CB Radio

VSWR is a measurement of the magnetic fields which reflect back into the antenna. Besides limiting the range of the transmitter, these also cause a heat build-up which can damage the transmitter circuitry. A high VSWR reading indicates a high level of reflected magnetic fields. A reading less than 2.0:1 is excellent. A reading above 3.5:1 is excessive and requires adjustment (see—VSWR Reading by CB Channels chart). VSWR readings can vary depending upon atmospheric conditions. VSWR can also vary with respect to surrounding objects that affect reflection and conductivity.

VSWR Reading by CB Channels

CB CHANNELS	VSWR READING
1 thru 5	Less Than 3.5:1
6 thru 10	Less Than 3.0:1
11 thru 15	Less Than 2.5:1
16 thru 25	Less Than 2.0:1
26 thru 30	Less Than 2.5:1
31 thru 35	Less Than 3.0:1
36 thru 40	Less Than 3.5:1

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Tuning the CB Antenna/Splitterbox

Tuning the CB antenna or splitterbox involves reducing the SWR level by using a VSWR meter or the Amserv AMX 386S Mobile CB Tester and chart covering operating instructions for Amserv AMX 386S Mobile CB Tester. Trim the antenna/splitterbox as follows:

NOTE: When checking SWR, car should be located out-of-doors and at least 100 feet from other vehicles, people, or buildings. Doors of test car should be closed.

(1) Disconnect coaxial cable at inline connection near splitterbox.

(2) Connect transmitter end of coaxial cable to a jumper coaxial cable.

NOTE: Jumper should not exceed 18 inches.

(3) Connect jumper coaxial cable to transmitter terminal of test instrument.

(4) Connect splitterbox end of coaxial cable to antenna terminal of test instrument.

(5) With engine running, turn radio on, key mike,

and measure SWR on channels 1 and 40 following test instrument manufacturer's instructions.

(a) If SWR reading on test instrument is less than 3.5 between channels 1 and 40 and within 0.5 of one another, no further adjustment is required.

(b) If SWR reading on test instrument is more than 3.5 between channels 1 and 40 adjust splitterbox.

(6) Adjust splitterbox using a 5/64-inch hexagon non-metallic alignment tool (available at most radio-television repair shops).

NOTE: If a metal Allen wrench is used for the adjustment, remove the wrench from the splitterbox before reading the test instrument.

(a) Insert alignment tool into splitterbox adjusting slug.

(b) Turn slug clockwise or counterclockwise, in one quarter turn increments, until SWR reading on test instrument is less than 3.5 between channels 1 and 40 and within 0.5 of one another, no further adjustment is required.

(c) If desired SWR reading cannot be obtained the antenna base slug must be adjusted.

(7) Turn transmitter channel selector to channel 20 and record SWR reading.

(8) Disconnect antenna mast from base and remove protective mylar tape from antenna base.

(9) Adjust antenna base slug using a 5/64-inch Allen wrench at least 3-1/2-inches long.

(a) With antenna mast installed, insert wrench into antenna base slug and turn slug clockwise or counterclockwise, in one quarter turn increments, to obtain lowest possible SWR reading on test instrument.

(b) Readjust splitterbox as outlined above.

Changing the splitterbox adjustment will lower or raise the frequency of the best channel match. Changing the load coil adjustment in the antenna base will raise or lower the SWR curve (fig. 3V-18).

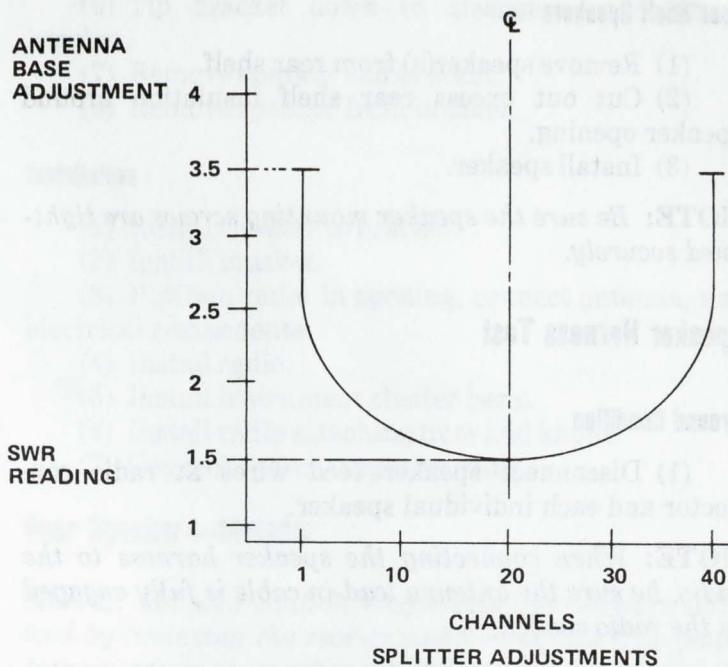
NOTE: Although you are not talking while checking VSWR, a carrier signal is being transmitted which can eliminate another transmission. Try to pick a time when the channel is not in use to check VSWR.

SPEAKERS

General

All speakers have an impedance of 3.2 ohms. A speaker should be replaced with the proper part number speaker. If the exact replacement is not available, select a speaker which matches the ohm value stamped on the radio chassis in black ink.

AM/FM multiplex radios are more critical in the selection of a speaker than are AM radios. A noticeable deterioration in sound will occur if the correct speaker is not used.



80703

Fig. 3V-18 Typical SWR Curve

Stereo speakers are paired for a truer stereo sound, right front with left front—right rear with left rear. Front door speakers are waterproof type and must be installed with the shield portion upward.

Speaker Repairs

A speaker, once it has been damaged, is usually not repairable and should be replaced with a new unit. Defective speakers usually have one or more of the following symptoms:

- Loose mounting
- Screws or other objects stuck to back of magnet
- Audio distortion, particularly on the low frequency notes and at high volume
- Rattles and buzzes caused by foreign material hitting or rubbing against the speaker cone
- Raspy noises caused by foreign matter inside the speaker restricting free movement of the speaker cone
- Muffled sound caused by speaker opening obstruction

Use a light to check the speaker opening(s).

If the entire speaker is not visible through the speaker grille openings, remove the obstruction as follows.

Front Door Speakers

- (1) Remove door trim panel lower attaching screws.
- (2) Carefully lift door trim panel away from door to expose the speaker.
- (3) Cut out excess water dam paper around speaker.
- (4) Install door trim panel lower attaching screws.

Rear Shelf Speakers

- (1) Remove speaker(s) from rear shelf.
- (2) Cut out excess rear shelf insulation around speaker opening.
- (3) Install speaker.

NOTE: Be sure the speaker mounting screws are tightened securely.

Speaker Harness Test**Ground Condition**

- (1) Disconnect speaker feed wires at radio connector and each individual speaker.

NOTE: When connecting the speaker harness to the radio, be sure the antenna lead-in cable is fully engaged in the radio socket.

(2) Connect one lead of an ohmmeter to the speaker feed wire and the other lead to a good ground. An infinity reading should be indicated. Check each individual speaker wire in this manner.

(3) If a reading is indicated on the ohmmeter, the wire being checked is shorted to ground.

NOTE: Grounded speaker harnesses are generally caused by screws piercing wire harness.

Short Condition

(1) Disconnect speaker feed wires at the radio connector and at each individual speaker.

(2) Connect ohmmeter leads to speaker feed wires at the radio connector.

(3) An infinity reading should be indicated.

(4) If resistance is indicated on ohmmeter, the feed wires being checked are shorted.

Speaker Test

Speakers may be isolated for grounds by testing the impedance with an ohmmeter. The specified value should match the ohm value stamped on the radio chassis.

SPEAKER REPLACEMENT

NOTE: Front door speakers are serviced by removing the door trim panels to gain access to speaker mounting screws and wiring. Refer to Chapter 3J for front door trim panel removal. Waterproof speakers are used in doors. Be sure shielded portion of the speaker is at top when installed. Rear door speakers are serviced by removing the rear quarter trim panels to gain access to speaker mounting screws and wiring. Pacer Wagon rear speakers are serviced by removing the speaker bezel from the rear quarter trim panels to gain access to

speaker mounting screws and wiring. Refer to Chapter 3K for rear quarter trim panel removal. Refer to Wiring Diagram in back of this manual for wiring.

Front Speaker—Pacer

- (1) Remove two front speaker grille attaching screws.
- (2) Tilt front of grille assembly toward windshield to disengage rear mounting tabs.
- (3) Disconnect speaker wires.
- (4) Remove speaker attaching screws from grille and remove speaker.
- (5) Install new speaker to grille.
- (6) Connect speaker wires.
- (7) Insert grille assembly into instrument panel with rear mounting tabs engaged first.
- (8) Install grille attaching screws.

Front Speaker—Gremlin-Concord-AMX**Removal**

- (1) Open glove box door and remove two upper screws that retain glove box insert.
- (2) Pull upper flap down and remove entire insert.
- (3) Remove glove box light switch assembly.
- (4) Disconnect speaker lead wires from speaker.
- (5) Remove speaker bracket attaching screws and remove speaker.

Installation

- (1) Position speaker in bracket and install speaker attaching screws.
- (2) Connect speaker lead wires to speaker.
- (3) Install glove box light switch assembly.
- (4) Install glove box insert.
- (5) Install two upper glove box retaining screws and tighten securely.

Rear Speaker—Gremlin-Concord-AMX**Removal**

- (1) Remove trim panel for access to speaker (fig. 3V-19).
- (2) Remove speaker and bracket assembly.
- (3) Disconnect speaker harness.
- (4) Remove speaker from bracket.

Installation

- (1) Install speaker to bracket.
- (2) Connect speaker harness.
- (3) Install speaker and bracket assembly.
- (4) Install trim panel.

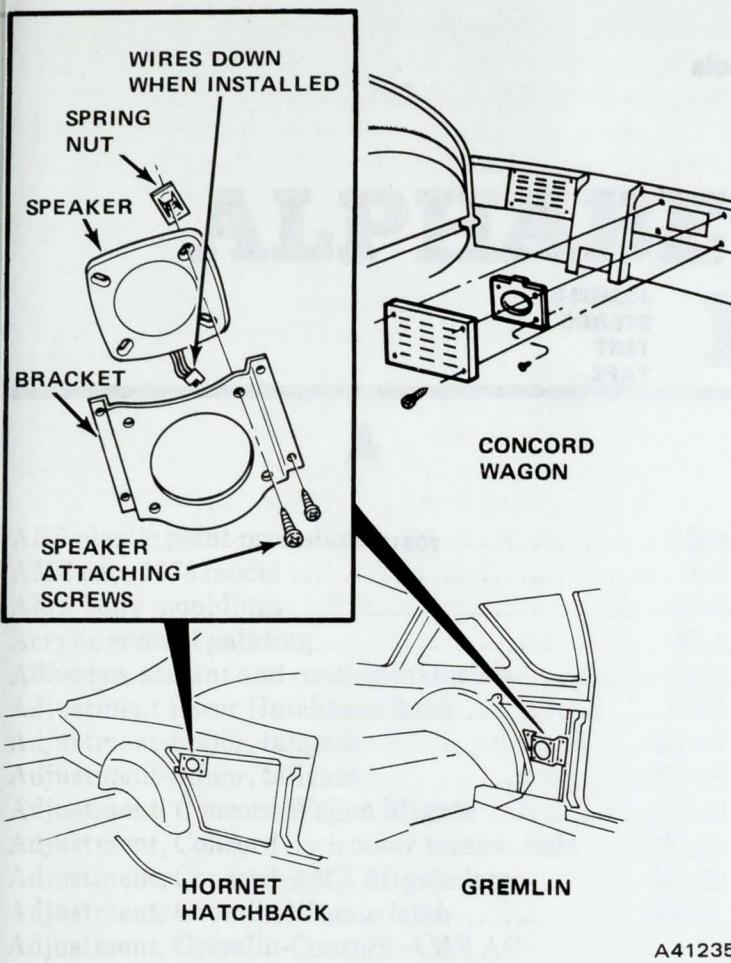


Fig. 3V-19 Rear Speaker Installation—Gremlin-Concord-AMX

Front Speaker—Matador

Removal

- (1) Disconnect battery negative cable.
- (2) Remove radio knobs and attaching nuts.
- (3) Remove instrument cluster bezel.
- (4) Remove radio (disconnect electrical wires and antenna lead).
- (5) Remove two speaker bracket attaching screws.

Radio Bulb Chart

	Number of Bulbs/ Bulb Trade Number	
	Gremlin/ Concord	Pacer/ Matador
Radio	—	1/1815
AM (Motorola)	1/1893	1/1815
AM/FM	1/1893	1/1815
AM/FM TAPE	—	1/1842

70320A

- (6) Tip bracket down to disengage rear tab of bracket.
- (7) Remove speaker and bracket.
- (8) Remove speaker from bracket.

Installation

- (1) Install speaker to bracket.
- (2) Install bracket.
- (3) Position radio in opening, connect antenna, and electrical components.
- (4) Install radio.
- (5) Install instrument cluster bezel.
- (6) Install radio attaching nuts and knobs.
- (7) Connect battery negative cable.

Rear Speaker—Matador

NOTE: Matador Station Wagon rear speakers are serviced by removing the rear compartment side trim panel to gain access to speaker mounting screws and wiring. Refer to Chapter 3K for rear compartment side trim panel removal. Refer to Wiring Diagrams in back of this Volume for wiring.

Removal—Matador Sedan and Coupe

- (1) Open trunk.
- (2) Remove two of the three plastic buttons which hold the fiber cap in place over speaker. Use pliers and pull down to remove buttons.
- (3) Disconnect speaker wires.
- (4) Bend fiber cap away for access and remove speaker attaching screws.
- (5) Remove speaker.

Installation

- (1) Install speaker making sure all screws are tight.
- (2) Connect speaker wires.
- (3) Position fiber cap in place.
- (4) Install plastic buttons.
- (5) Close trunk.

SPECIFICATIONS

Fuse Chart

Fuse		
CB Radio In-Line	3 amp	
		70320B

NOTE: Be sure the **shutter** is closed or **locked** before you **load** or **unload** the cartridge. Failure to do so may damage the **camera**.



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WIRING DIAGRAMS

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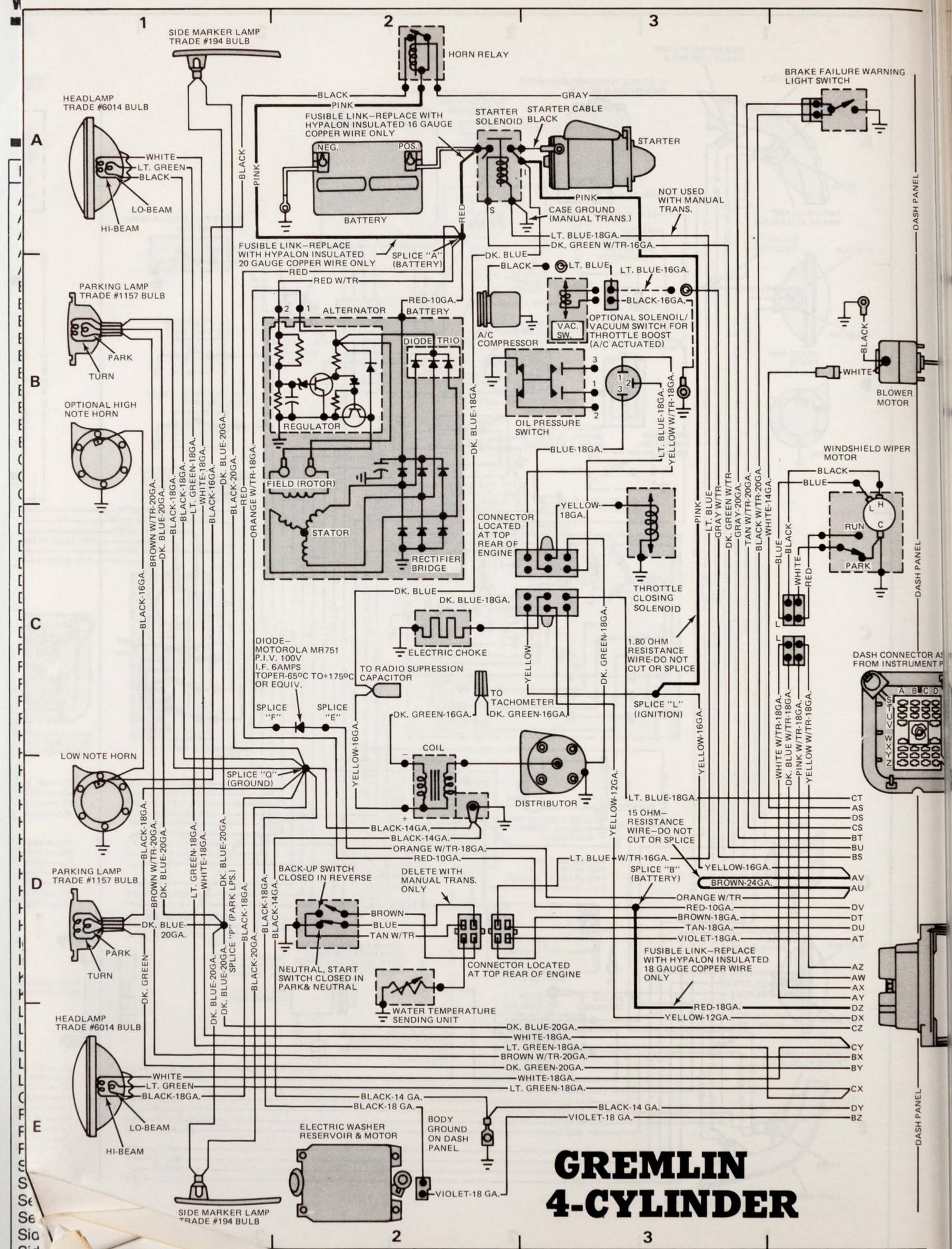
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Component Grid Locator

Pacer

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License Lamp Assembly (66 Only)	C-11		
License Lamp Assembly, Left (68 Only)	D-11		
License Lamp Assembly, Right (68 Only)	C-11		
Liftgate Switch (68 Only)	B-11		
Liftgate Switch (66 Only)	D-9		
Oil Pressure Sending Unit	B-3		
Parking Brake Light Switch	C-9		
Parking Lamp, Left Side	E-1		
Parking Lamp, Right Side	A-1		
Seat Belt Buzzer	D-8		
Seat Belt Switch, Driver	D-9		
Sending Unit, Gas Tank	D-10		
Sending Unit, Water Temperature	B-3		
Side Marker Lamp, Left Front	E-1		
Side Marker Lamp, Left Rear	E-11		

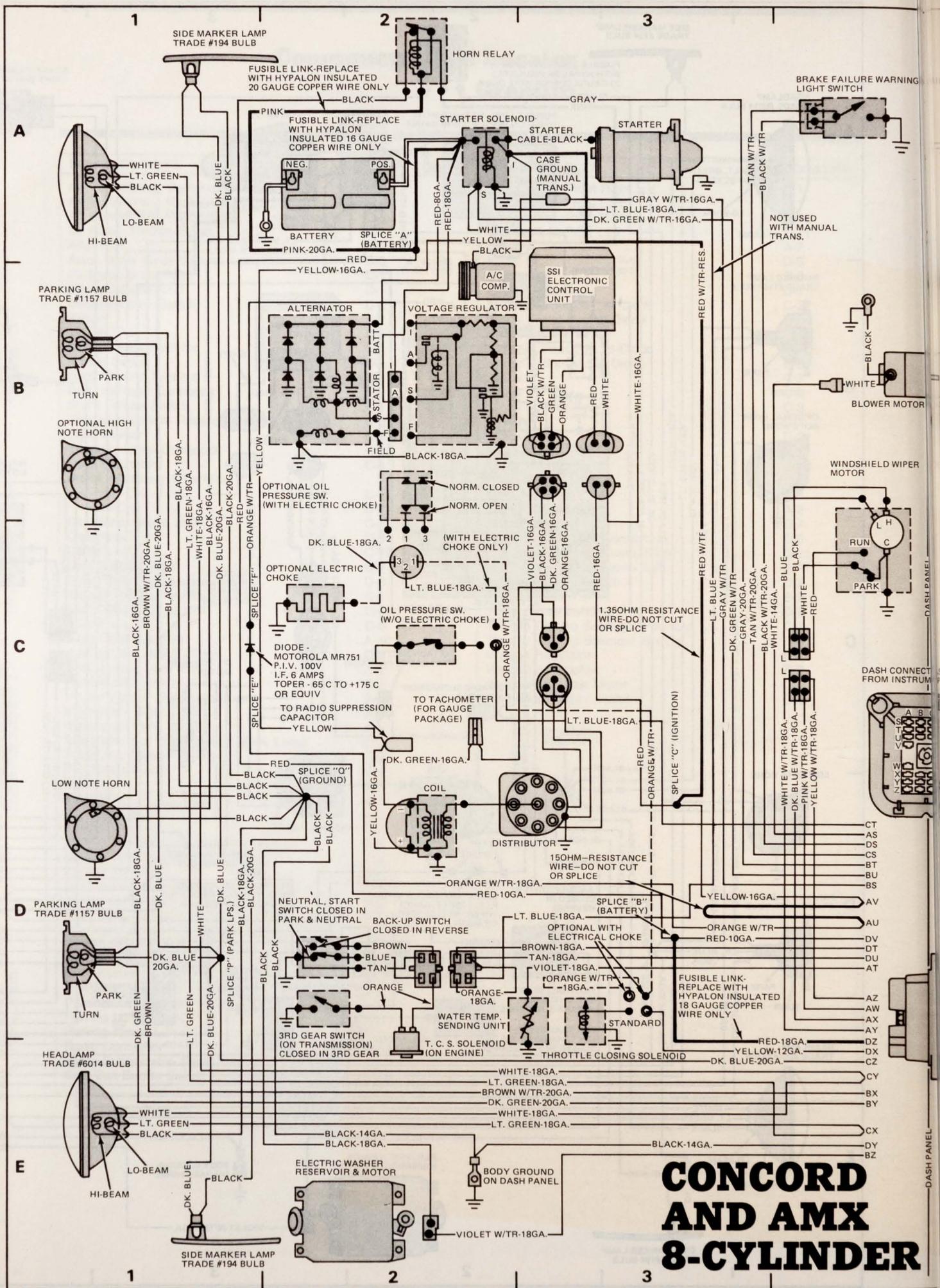
**Wiring Diagram
Pacer
60 Series**



GREMLIN 4-CYLINDER

**Wiring Diagram
Gremlin
40 Series**

WIRING DIAGRAM
GREMLIN 40 SERIES • e-CAR



**Wiring Diagram
Concord and AMX
01 Series**

Component Grid Locator

Matador 10 Series

NOMENCLATURE	LOCATION
Accessory Connector	E-6
A/C Compressor	C-2
A/C Temperature Sensor	C-1
A/C Thermostat	B-5
A/C Micro Switch Connector	B-5
Alternator, Six-Cyl. (Delco)	C-2
Alternator, Eight-Cyl. (Motorcraft)	B-2
Ash Receiver Lamp	A-7
Auto. Trans. Neutral & Back-up Lamp Switch	D-2
Back-up Lamp, Left	C-11
Back-up Lamp, Right	C-11
Battery	A-2
Blower Motor	B-4
Blower Motor Resistor	B-4
Body Ground	C-10
Body Ground on Dash Panel	D-2
Body Harness Connector	E-8
Brake Failure Warning Light Switch	A-4
Cigar Lighter	A-7
Clock	A-6
Coil	C-2
Courtesy Lamp, Left Side	D-9
Courtesy Lamp, Right Side	B-9
Dash Connector	D-4
Dimmer Switch	E-5
Directional Signal Flasher	D-7
Directional Signal Switch	C-8
Distributor	C-2
Dome Lamp	C-10
Door Switch, Left	E-9
Door Switch, Right	B-9
Fuse Panel	A-10 & E-6
Fusible Link, Horn Relay	A-2
Fusible Link, Ignition Switch Solenoid Circuit	A-7
Fusible Link, Starter Solenoid	A-2
Glove Box Lamp	A-9
Hazard Flasher	D-6
Headlamp, Left Side	E-1
Headlamp, Right Side	A-1
Headlamp Switch	D-6
Headlamp & Wiper Switch Lamp	C-6
Heater Rear Window Connector	D-8
Heater Blower Switch	A-5
Heater Control Lamp	A-5
Horn Switch	C-7
Horn, Left Side	D-1
Horn Relay	A-2
Horn, Right Side	B-1
Ignition Switch	B-8
Instrument Cluster Circuit Panel	B-6
Instrument Panel Ground	A-7
Key Alarm Switch	C-7
Key & Headlamp Warning Buzzer	C-6
License Lamp Assembly	C-11
Lamp Ground Screw In Trunk	C-10
Oil Pressure Sending Unit	B-3 & C-3
Parking Brake Lamp Switch	B-7
Parking Lamp, Left Side	D-1
Parking Lamp, Right Side	B-1
Radio Connector	B-5
Resistance Wire, Splice "L"	D-3
Seat Belt Buzzer/Timer	C-8

NOMENCLATURE	LOCATION
Sending Unit, Gas Tank	D-10
Sending Unit, Water Temperature	D-2
Side Marker Lamp, Left Front	E-1
Side Marker Lamp, Left Rear	E-10
Side Marker Lamp, Right Front	A-1
Side Marker Lamp, Right Rear	A-10
Splice "A"	A-2
Splice "D"	D-6
Splice "E"	A-7
Splice "F"	A-6
Splice "H"	C-7
Splice "J"	A-7
Splice "L"	D-3
Splice "N"	E-1
Splice "P"	B-1
Splice "Q"	D-2
Splice "R"	B-1
Splice "S"	E-10
Splice "T"	A-10
Splice "U"	C-11
Splice "V"	C-10
Splice "W"	D-10
SSI Electronic Control Unit	A-3
Starter	B-3
Starter Solenoid	A-3
Steering Column Connector	C-7
Stop Lamp Switch	D-8
Tail & Stop Lamp, Left Inner	D-11
Tail & Stop Lamp, Left Outer	E-11
Tail & Stop Lamp, Right Inner	B-11
Tail & Stop Lamp, Right Outer	A-11
Third Gear Switch (On Trans.)	C-2
Throttle Closing Solenoid	D-2
Transmission Control Spark (TCS) Solenoid	D-2
Voltage Regulator, Eight-Cyl.	B-2
Windshield Washer Reservoir & Motor, Electric	E-2
Windshield Wiper Motor	C-4
Windshield Wiper Switch	C-6

**Wiring Diagram
Matador
10 Series**

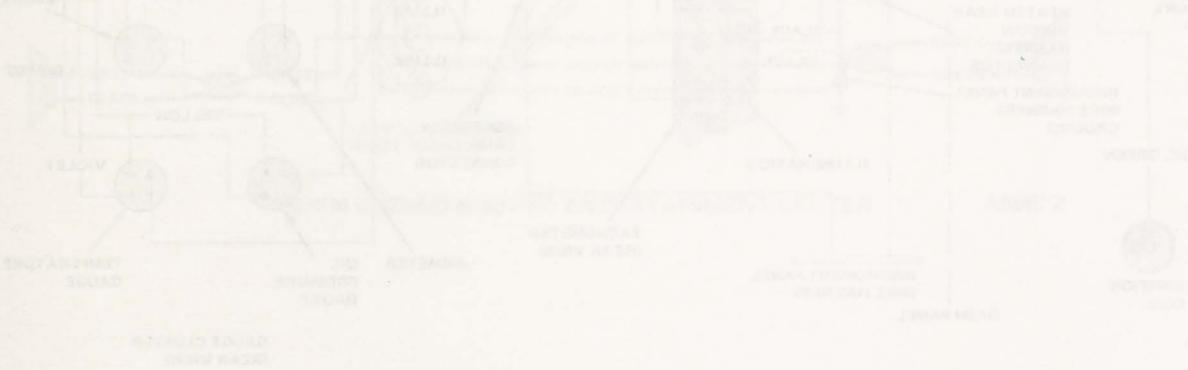
Component Grid Locator

Matador 80 Series

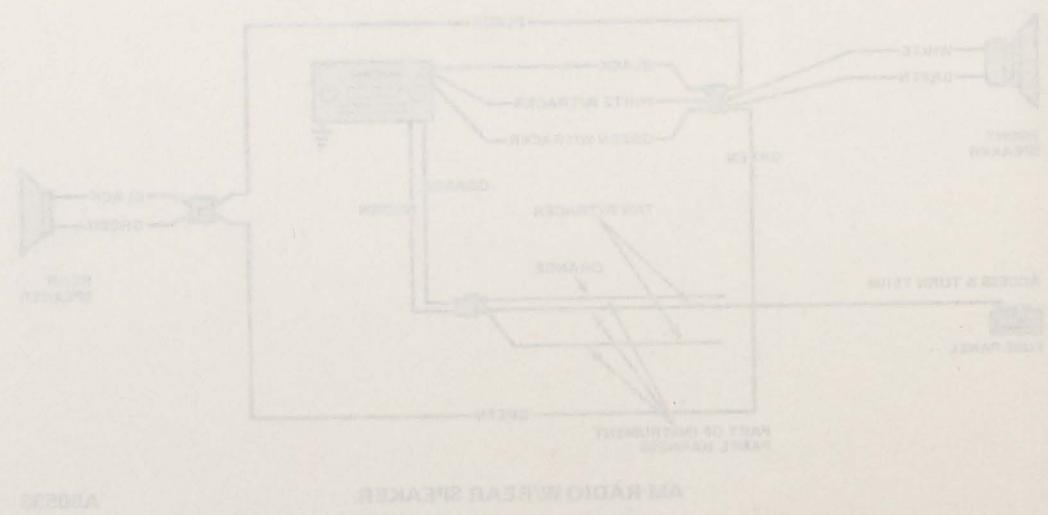
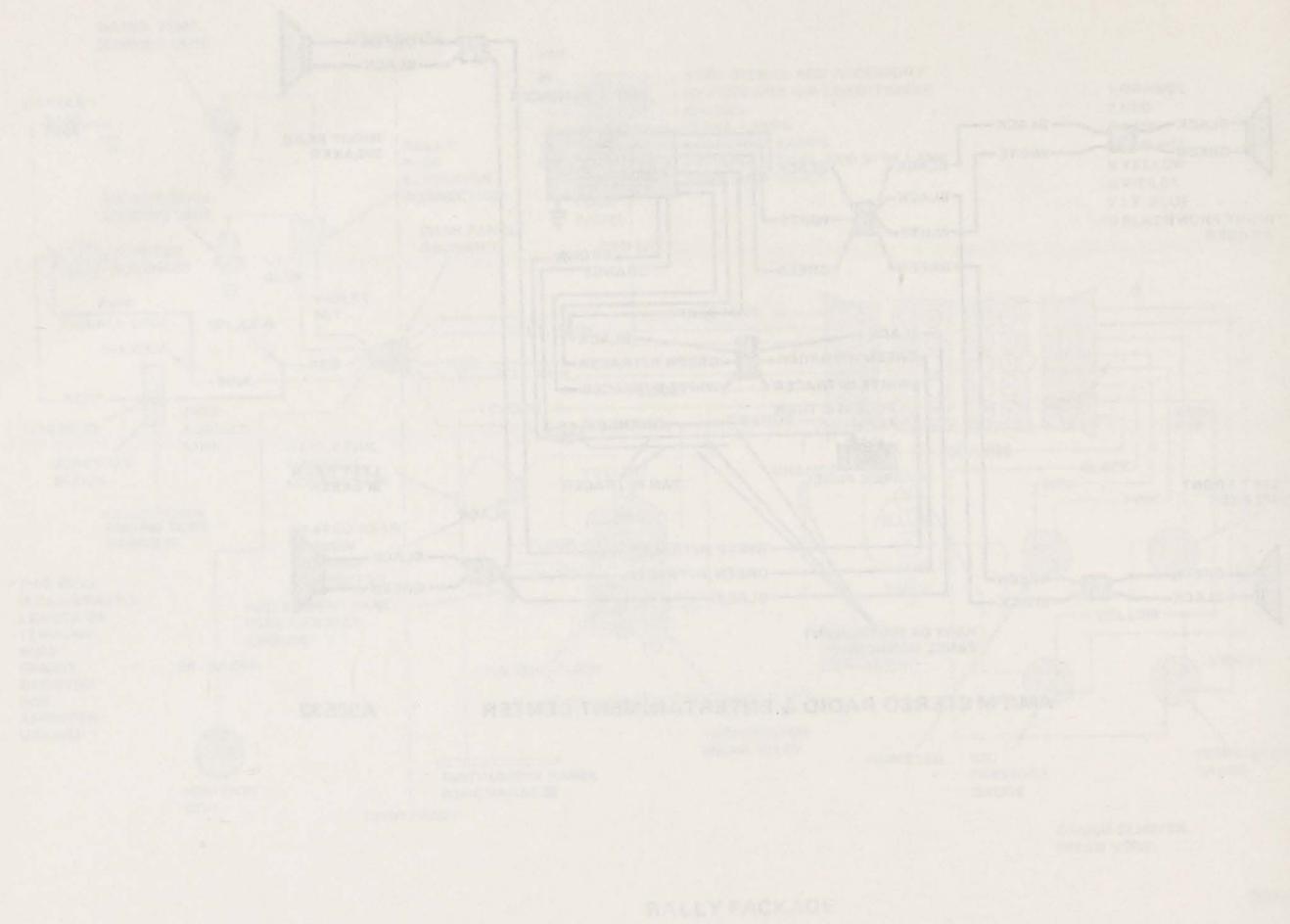
NOMENCLATURE	LOCATION	NOMENCLATURE	LOCATION
A/C Compressor	C-1	Resistance Wire, Splice "L"	D-3
A/C Micro Switch Connector	B-5	Seat Belt Buzzer	C-8
A/C Temperature Sensor	C-1	Sending Unit, Gas Tank	D-10
A/C Thermostat	B-5	Sending Unit, Water Temperature	D-2
Alternator, Six-Cyl. (Delco)	B-2 & C-2	Side Marker Lamp, Left Front	E-1
Alternator, Eight-Cyl. (Motorcraft)	B-2	Side Marker Lamp, Left Rear	E-11
Ash Receiver Lamp	A-7	Side Marker Lamp, Right Front	A-1
Auto. Trans. Neutral & Back-up Lamp Switch	D-2	Side Marker Lamp, Right Rear	A-11
Back-up Lamp, Left	D-11	Splice "A"	A-2
Back-up Lamp, Right	B-11	Splice "B"	B-2
Battery	A-2	Splice "C"	D-7
Blower Motor	B-4	Splice "D"	D-6
Blower Motor Resistor	B-4	Splice "E"	A-7
Body Ground	C-11	Splice "F"	A-6
Body Ground on Dash Panel	A-7	Splice "H"	B-7
Body Harness Connector	E-8	Splice "J"	A-6
Brake Failure Warning Light Switch	A-4	Splice "L"	D-3
SSI Module	A-3	Splice "N"	E-1
Cargo Lamp (Wagon Only)	C-10	Splice "P"	B-1
Cargo Lamp Switch (Wagon Only)	C-10	Splice "Q"	D-1
Cigar Lighter	A-7	Splice "R"	B-1
Clock	A-5	Splice "S"	E-11
Coil	C-2	Splice "T"	B-10
Courtesy Lamp, Left Side	D-9	Splice "U"	C-11
Courtesy Lamp, Right Side	B-9	Splice "V"	D-10
Dash Connector	C-4	Splice "W"	D-10
Dimmer Switch	E-5	Starter	B-3
Directional Signal Flasher	E-7	Starter Solenoid	A-2
Directional Signal Switch	C-7 & C-8	Steering Column Connector	C-7
Distributor	C-2	Stoplight Switch	D-7
Dome Lamp	C-10	Tail & Stop Lamp, Left Inner	D-11
Door Switch, Left Front	D-8	Tail & Stop Lamp, Left Outer	E-11
Door Switch, Left Rear	E-8	Tail & Stop Lamp, Right Inner	B-11
Door Switch, Right Front	B-9	Tail & Stop Lamp, Right Outer	A-11
Door Switch, Right Rear	A-9	Thermo Timer	C-9
Fuse Panel	A-9 & E-6	Third Gear Switch (On Trans.)	C-2
Fusible Link, Horn Relay	A-2	Throttle Closing Solenoid	D-2
Fusible Link, Ignition Switch Solenoid Circuit	A-7 & B-7	Transmission Control Spark (TCS) Solenoid	D-2
Fusible Link, Starter Solenoid	A-2	Trunk Lamp	D-10
Glove Box Lamp	A-8	Voltage Regulator, Eight-Cyl.	B-2
Hazard Flasher	D-6	Windshield Washer Reservoir & Motor, Electric	E-2
Headlamp, Left Side	E-1	Windshield Wiper Motor	C-4
Headlamp, Right Side	A-1	Windshield Wiper Switch	C-6
Headlamp Switch	D-6		
Headlamp & Wiper Switch Light	C-6		
Heater Blower Switch	A-5		
Heater Control Lamp	A-5		
Horn Contact	C-7		
Horn, Left Side (Low)	D-1		
Horn Relay	A-2		
Horn, Right Side (High)	B-1		
Ignition Switch	B-8		
Instrument Cluster Circuit Panel	A-6 & B-6		
Instrument Panel Ground	A-7		
Key Alarm Contacts	C-7		
Key & Headlamp Warning Buzzer	C-6		
License Lamp Assembly	C-11		
Light Ground Screw in Trunk	C-11		
Oil Pressure Sending Unit	C-3		
Parking Brake Light Switch	B-7		
Parking Lamp, Left Side	D-1		
Parking Lamp, Right Side	B-1		
Radio Connector	B-5		

**Wiring Diagram
Matador
80 Series**

Accessory Diagrams
Pacer



ACCESSORY
WIRING DIAGRAMS
PACER 60 SERIES



ACCESSORY WIRING DIAGRAMS PACER 60 SERIES

**Accessory Diagrams
Gremlin, Concord and AMX**

The logo consists of a stylized, slanted 'A' character followed by the letters 'MC'.

AMC